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Data Concerning Bids Received

FOR several months THE MUNICIPAL JOURNAL has been sending to the various authorities in charge of the awarding of contracts, requests for information concerning the same, to be accompanied by data descriptive of the conditions of the work bid upon which would enable one not familiar therewith to obtain some idea of the nature of said work. The response to these requests has been encouraging, but not nearly so general as we would wish. There is little difficulty in obtaining the statements of the amounts bid, but these alone tell very little, except to a relatively few who are intimately acquainted with the work. Engineers and officials throughout the country who are engaged from time to time in making estimates of the cost of proposed work are continually looking for cost data on similar work to assist them in the preparation of such estimates, and find little of any value. And the discouraging feature is, that when they themselves finally receive bids upon the work they do not take the trouble to give others the benefit of information which they themselves, but a short time before, were anxious to obtain, because of the few minutes or even hours of labor involved in preparing the same. We have just received a letter from a prominent engineer in which he says, after urging us to make even greater efforts to obtain this information: "The other technical journals occupy pages

of their papers giving the results of bids all over the country, and to those not familiar with the special work they are not worth reading, because the general features of the work are not set forth, and so no comparison can be made with work of a like character in other sections. This branch of technical information could be made very valuable to every engineer and contractor if it was properly prepared."

We believe that every engineer in the country would confirm this opinion if asked, and we appeal to all such to assist us in our endeavor to present all bids received by them, or concerning which they have information, promptly and with as full details as possible. We will spare no pains in tabulating all such information sent us and presenting the same for the benefit of engineers and municipalities. Every engineer owes more than he can ever repay to those who have preceded him in his profession, for the information which they have freely made public at the expense of time and labor to themselves, and there is probably no way in which he can make more valuable returns for this, with as little trouble, than in the way above suggested.

Sidewalk and Street Obstructions

THE public has been most thoroughly informed and frequently reminded of its ownership of the roadways, and of the reasons why public service corporations should be required to give compensation for privileges in the same granted to them. But has enough been said and done concerning the use of public streets, and especially the sidewalks, by abutting property owners? The keeper of a grocery-store has no more right to use the largest part of the sidewalk in front of his property for displaying goods than has a street railway company to occupy a strip of the roadway. It is not necessary that the sidewalks of certain streets should be blocked a large part of the time by teams backed up to warehouses, but it simply saves to the owners the expense of providing *porte-cocheres* where such loading could be done. It reduces somewhat the cost to the contractor building when all the material may be piled on the sidewalk and roadway in front; but at the cost to the public of considerable inconvenience and annoyance. Building operations are but temporary, and there is therefore possibly more excuse for them; but the continual blocking of sidewalks by goods, teams, etc., should be restricted very much more than it is; and the use of sub-sidewalk space is as valuable for vaults as is the roadway for water pipes, and the abutting owner has no more right to one than has a water company to the other.

Tar Sidewalks in Pittsfield, Mass.

IN THE MUNICIPAL JOURNAL AND ENGINEER for January 2 we published an article in which reference was made to the use of tar sidewalks in Pittsfield, Mass. Further information concerning these has recently been received by us from Mr. A. B. Farnham, the City Engineer, who furnishes the following facts: Tar concrete walks have been laid in the city of Pittsfield for the past eighteen years and have given universal satisfaction. The average life of this walk is fifteen years; the causes which tend to destruction of the surface being a hard and wet soil under the walk and the breaking of the same caused by the roots of trees. The first cause is especially detrimental, because of the fact that no provision is made for extra foundations in any case, although the climate is very severe; this being largely due to the fact that endeavor is made to keep the cost per square yard down to the minimum in order that the greatest number of properties may receive the benefit of the appropriation, which is \$8,000 annually. (One-half of the cost of the walks is paid by the city and the other half assessed against the abutting property.) With a cinder foundation the life of many walks would probably be lengthened.

The walks are made of two kinds, called locally "soft" and "hard" walks. The former are given a total thickness of 4 inches; the bottom layer, $2\frac{1}{2}$ inches thick, consisting of screened gravel, varying in size from $\frac{3}{4}$ inch to $2\frac{1}{2}$ inches in diameter, mixed with tar, on which is placed a $\frac{1}{2}$ -inch binder coat, followed by a 1-inch wearing surface, this last being composed of a mixture of 90 per cent. tar and 10 per cent. asphalt, combined with sand which will pass through a 3-16-inch mesh; the materials for each of the above layers being thoroughly mixed, heated and rolled. The "hard" walks, used in drive-ways and places subjected to heavy travel, are made 5 inches thick, mixed in the same manner as above, except that the wearing surface is composed of sand and asphalt, no tar being used.

In the year 1906 soft walks cost 40 cents per square yard and the hard walks 95 cents. There are now in the city about 25 miles of these walks, 6 feet wide, on which \$500 a year is spent in maintenance, much of it upon the cracks and humps caused by the roots of large elm trees, of which there are a very considerable number. The soil throughout the city is mostly gravelly with occasional stretches of clay, hard-pan and sand.

Mr. Joseph F. Biladeau has had charge of this work for the city since its inception, and the statement as to life and cost of maintenance would seem to show that he is entitled to great credit for the same.

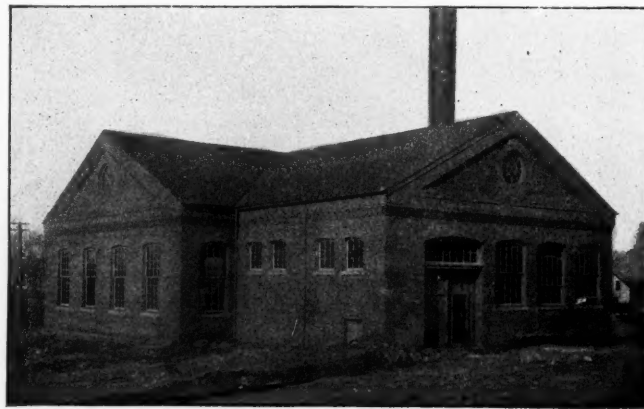
Time Lost in Rapid Transit Stops

It has been estimated by Chas. F. Hopewell, an electrical engineer, in a report to a Cambridge, Mass., citizens' committee, that on the elevated and subway roads in Boston the average stop costs forty-three seconds, including time lost in slowing down and starting, as well as the actual stop.

MUNICIPAL ELECTRIC LIGHT PLANT

Description of Hagerstown, Md., Plant—Financial Statement—
Arc Lights at a Cost of \$29.66 Each Per Year
—Comments on Calculation

THE lighting of the city of Hagerstown was for some years performed by the Hagerstown Railway Company, under a contract which terminated in the spring of 1901, by the terms of which 93 series open-arc lamps burning all night and every night were furnished for the sum of \$62.50 per annum. This price was quite reasonable and was so considered by the citizens; but the charge for commercial lighting was 18 cents per kilowatt-hour, which was considered excessive. Moreover, the owners of the street railway system had also obtained control of the only gas company in town, and it was reported that they were also endeavoring to obtain possession of the city waterworks system, which was owned by a private corporation. The citizens of the town were thus brought face to face with a three-cornered monopoly and, by an overwhelming majority, decided by ballot to construct an electric-light plant for commercial purposes as well as for lighting the streets of the city. The plant was installed in April, 1901, and consisted of two 250-horsepower Buckeye tandem compound engines; two 175-kilowatt Westinghouse A. C. generators; two 250-horsepower Heine water-tube boilers with Hawley furnaces; two condensers, heaters, switchboard and instruments; a pole line and 117 series enclosed-arc lamps, together with the necessary regulators, transformers, etc.; the total cost of the whole being \$63,323.74. This plant has been in operation for six years and during this time has not had an open field but has had to meet the competition of the traction company, which still furnishes current for commercial purposes, and at much reduced rates. In this respect it differs from many municipal electrical plants. The revenue from the plant during the past year was nearly sufficient to pay all the operating expenses, including the interest on the original investment and the depreciation (which is figured at 6 per cent. on the value of the entire plant, including ground and buildings), as well as the other expenses set forth in the appended statement. The



POWER HOUSE AS ORIGINALLY BUILT
Addition to Boiler Room and Another Stack Since Added



ORIGINAL BOILER ROOM
Unloading Two 250-H.P. Erie City Water-Tube Boilers

manager of the plant assures the taxpayers of the city that in the course of another year the revenue will be sufficient to meet all the expenses of the plant, including interest, depreciation, etc., without any tax levy, which will give the city the benefit of having its streets lighted over night and all night as at present with 141 series enclosed A. C. arc lamps practically free; while if a nominal charge of \$50 each were made for the street lights, a profit of over \$7,000 per year would be earned.

The force employed consists, besides the manager, of two engineers, two firemen, one lineman, one trimmer and one assistant trimmer. All expenses of constructing new lines, such as poles, cross-arms, labor and freight, are charged directly to the operating expenses. Politics has no place or part in the management of the plant, and the manager's advice to many inquiries which he receives from time to time from other municipalities concerning the operation of the plant is, to steer clear of politics. Since a large part of the income of this plant is from commercial lighting, the rates charged (which are the same as those of the private competitor) are of interest.

These are as follows:

Twelve and one-half cents per kilowatt-hour, with a minimum charge per month of 50 cents.

Bills over	.50 to	2.00,	20 per cent.	discount if paid in 10 days.
"	2.00	" 5.00	25	" " "
"	5.00	" 10.00	30	" " "
"	10.00	" 20.00	35	" " "
"	20.00	" 30.00	40	" " "
"	30.00	" 50.00	45	" " "
"	50.00		50	" " "

Financial Statement

MARCH 31, 1907.

COST OF PLANT.

The original cost of installation was.....	\$63,323.74
Additional equipment and betterments added to date, including one 500-horsepower Buckeye cross-compound engine, one 330-kilowatt Westinghouse A. C. generator, two 250-horsepower Erie City water-tube boilers, one 100-light General Electric C. C. transformer; also arc lamps, transformers, meters, wire for line extensions, etc.....	31,566.45

Making the total cost of the plant to date.....	\$94,890.19
It is estimated that the depreciation to date has been..	21,660.27

Leaving as the net value of the plant on March 31, 1907. \$73,229.92

OPERATING EXPENSES.

For the year ending March 31, 1907—

Salaries and labor (including labor for building four miles of line extension).....	\$5,611.31
Coal	7,755.94
Incandescent lamps (furnished free).....	742.46
Water	623.19
Litigation	620.47
Carbons	431.10
Oil	262.04
Freight, express and hauling	253.21
Inner and outer globes	254.38
Packing	203.54
Unloading coal	149.74
Lamp repairs	139.25
Interest	2,435.32
Rent, office	90.00
Telephones and telegrams	76.13
Cross-arms, brackets and pins	69.53
Waste	49.18
Ice	26.85
Sundry repairs and supplies	286.52
Depreciation for year ending March 31, 1907.....	4,293.76

Total operating exp. for year ending March 31, 1907..	\$24,373.92
Amount revenue from commercial lighting and power for year past	22,771.55

Excess of operating exp. over revenue for past year... \$1,602.37



HAGERSTOWN ELECTRIC-LIGHT PLANT

Interior of Engine Room, Showing Two 250-H.P. Tandem and One 500-H.P. Cross Compound Buckeye Engines; Two 175-kw. and one 330-kw. Westinghouse Generators; Switchboard in Background. Superintendent J. O. Beard in Center

This deficit represents the cost of operating the 141 street arc lights for the past year, all night and every night, or the average net cost per arc light for the year ending March 31, 1907, of \$11.37, which amount was provided for by tax levy, as well as the following new equipments and betterments:

BETTERMENTS ADDED DURING YEAR ENDING MARCH 31, 1907.	
Boiler and addition to power house, etc.....	\$2,530.38
Transformers	1,006.93
Wire for line extensions	1,240.46
Meters	919.43
New arc lamps	263.77
Total	\$5,960.97

Two comments might be made upon the above method of calculating. The interest is apparently figured upon the first cost of the plant rather than its total cost including betterments. Four per cent. on the total cost would give about \$1,360 more than the statement above; and for methods of comparison this would seem the more desirable method. Depreciation is taken as 6 per cent. of the net value of the entire property, rather than of the cost value. Excellent argument may be offered in favor of this as more nearly representing the relative rates of depreciation; but it is not common practice; it brings the heaviest burden of sinking fund appropriation on the earlier years of operation, when the income is likely to be lowest, and if adopted the rate should be much higher than 6 per cent. If we assume 6 per cent. on the total cost, this gives a depreciation about \$1,220 greater than that given above. These two increases added to the (so-called) deficit would give a total of \$4,182 as the cost to the town of 141 arc lights, or \$29.66 each per year. Or, if we credit the plant with the previous moderate charge of the private company—\$62.50 each—we have a net profit of \$4,630.

POLLUTION AND PURIFICATION OF ICE

Report by the New York State Commissioner of Health— Considers Danger Largely Exaggerated—Self- Purification by Natural Agencies

IN reply to and comment upon various newspaper statements which have recently been made concerning the dangers of polluted ice, Dr. Eugene H. Porter, New York State Commissioner of Health, has published in the monthly bulletin of the department a statement concerning this matter which is to be considered as authoritative, and which we abstract herewith.

Data used for making investigations in relation to this subject should be obtained only by trained sanitary experts, since even the best of general chemists or bacteriologists may be incompetent to interpret analyses along these lines; the investigations must take into consideration every varying condition, must continue over extended periods of time, be under strict control, not subject to outside influence, and conclusions must be reached only after skilled interpretations of results.

The question of ice infection has been made the subject

of special investigation and experiments for more than a quarter of a century. It was scientifically studied by eminent authorities as early as 1871, and about fifteen years later in this country by Prudden, and still later by Sedgwick, Clark, Mason and other eminent sanitarians and biologists. Dr. Porter first reviews the recorded epidemics of diseases in which ice was the attributed cause of infection, and then considers the influences or factors which are active in the pollution and purification of ice, as demonstrated by experiments and experience.

The diseases transmitted by ice are intestinal, but we must clearly distinguish between the intestinal disturbances caused by decomposing organic matter and diseases such as typhoid fever or cholera caused by specific germs. The first epidemic was of the former class and occurred at the summer resort of Rye Brook, in 1875. The ice supply was found to have been cut from ponds containing decomposing sawdust and marsh mud. In 1878 Dr. Smart, of the United States Army Medical Department, attributed a small outbreak of malarial fever at a Western garrison to the contamination of streams by melting snow; the water being found to contain much organic matter and also the "materies morbi" of malaria (the existence of which in water more recent knowledge would seem to render doubtful). In 1879, the Connecticut State Board of Health reported eight cases of dysentery out of a family of eleven in one farmhouse, three of which proved fatal. The drinking water gave satisfactory analyses, but the ice was found to be highly polluted and to have been cut from a stream frequented by swine. Three years later the same Board were informed of a single case of typhoid fever, the only suspicious conditions connected with the patient apparently having been his free use of ice cut from a pond into which drainage of three typhoid patients was discharged; the presumption being that infection was transmitted by means of this ice. In 1902, thirty-nine cases of typhoid fever occurred at the St. Lawrence State Hospital at Ogdensburg under conditions which led the investigators to conclude that the ice taken from the Oswegatchie river at a point where it had been contaminated by dejecta from several typhoid fever patients was the primary cause of infection. It was alleged that lumps of dirt frozen in the ice showed, upon examination, cultures that were true typhoid bacilli. These lumps of dirt indicated that the ice was either frozen when the water was in rapid motion, an unusual condition, or that infection may have occurred from extraneous sources, such as infected shoes of laborers during ice-cutting, flooding of the ice, etc. That this may have been the most probable cause was strengthened by the fact that only one out of several ice-houses filled with ice from the same source was in any way brought under suspicion. At the military post of Rennes, in the autumn of 1895, eight lieutenants were taken ill within a few days of each other and, as they did not live in common, a military banquet seemed the only occasion when the infection of all could have occurred. The water supply was considered beyond

suspicion, but all of these officers had drunk champaign mixed with ice; which ice had been taken from a supply known to be polluted. Dr. Porter states, however, that this same ice was apparently used by the residents of the town with impunity, and suggests that oysters were apparently not considered as a possible source of infection.

The above epidemics constitute the practical evidence of an epidemiological nature upon which we are to judge of the dangers of ice infection. Out of some six epidemics attributed to infected ice in only one was the number of cases reported greater than a dozen. Four of them might be termed merely intestinal disorders due to decomposing organic matter and not to specific germs. Of the two epidemics of typhoid fever the circumstances connected with them were, as stated above, of such a nature as, judged from our present knowledge and later experimentation and observations, to cast considerable doubt upon the alleged cause of the infection.

In general there are many conceivable ways in which ice and ice supplies may become infected, but some so remote as to hardly merit notice. The first is the cutting of ice from ponds or rivers polluted by sewage; second, ice may become contaminated during harvesting by dirt carried on the hands or feet of laborers or the hoofs of horses, or in other ways from outside sources; third, it may be infected by surface drainage from adjacent lands during thaws, which drainage water may freeze on the top of the ice; fourth, the ice may be infected during distribution or even within the house by handling or in other conceivable ways. This last may be by far the most serious, since the time between infection and transmission would be too short for the counteracting influence of cold to be exerted effectively. Such infection may be from ice handling the ice, from the air of the city, from the dirt on the sidewalk where the ice is temporarily deposited, from the dirty ice broom, the water with which it is washed, and finally the handling while placing in the ice chest. All of these (except that of polluted water supply) may be avoided by washing each piece of ice before it is placed in drinking water or upon food, but this is not always done by any means. There are, however, a series of self-acting agencies by which nature minimizes any danger from polluted ice. The first of these consists of those phenomena generally called collectively the self-purification of streams, consisting largely of subsidence and oxidation. Dr. Porter states that in a run of from ten to fifty miles in a large river from 50 to 75 per cent. of the bacteria will be removed, and in quiescent bodies of water even higher percentages. The second is the exclusion of matters in freezing, it being found that during such action suspended matters and also chemicals are driven out of that part of the water which is being frozen and into the adjacent parts; there generally resulting a reduction of about 90 per cent. of the suspended particles and bacteria and about 25 per cent. of the chemical compounds. Perhaps most effective in the self-purification of ice is the low temperature, it having been found by nearly all observers that bacteria

exposed to a temperature near the freezing point very soon lose their vitality, and if exposed for a sufficient length of time are either killed or become so attenuated as to be non-pathogenic; that is, their vitality has been so lowered that they are unable to be sufficiently revived to produce diseases. This effect of cold is proportionate more to the time of exposure than to the degree of cold. In general, bacteria are reduced in number about 50 per cent. after a period of one hour; 90 per cent. after twenty-four hours, and practically 100 per cent. after two or three weeks. (On the other hand, a French investigator found the bacteria increase from 150 to 520 per c.c. in twenty-four hours in water constantly maintained at the freezing point. Prof. Mason subjected water to minus 312 degrees F. for many hours without destroying them.) Dr. Porter then assumes the case of an ice crop harvested from a polluted stream and stored in an icehouse for some months before delivery. Assuming 1,000,000 bacteria per c.c. in the river water, 50 per cent. purification for the first of the above influences, 90 per cent. for the second, 99 per cent. for the third, and 99 per cent. for the general tendency of pathogenic bacteria to slowly die when in an unfavorable environment; and the total result would be the elimination of all but five of the original bacteria—a result much better than that given by the best of sand filters. But there still remains the possibility of infection due to handling, to surface pollution, to the pernicious practice of flooding ice to get a thicker crop, and to similar flooding by rains and melting snow which may carry in suspension pollution from the ground surface. Artificial ice manufactured from contaminated water and delivered in a few hours or days to the consumers would be subjected to none of the above purifying agencies, and would consequently be much more dangerous than natural ice; and bacterial analyses have confirmed this reasoning.

Dr. Porter does not claim that in consequence of the self-purification above described there is no objection to cutting ice in the vicinity of sewer outlets, since this would be loathsome even if not dangerous. But he does, apparently, claim that the danger of infection from ice which has been taken not less than ten miles below a sewer outlet is less than that of drinking almost any public water supply, even though purified by the best of sand filters. While there are arguments to the contrary, it may be said that most of these are based not upon actual epidemics, but rather upon laboratory experiments in which typhoid bacteria have been found in large numbers in ice which has remained frozen for several weeks or even months. But this last, combined with the fact that ice is so generally taken into the stomach melted in drinking water, when at all, which water may have been blamed for any infection resulting (is it certain that the epidemic of typhoid at Washington, for instance, where the water supply appeared to be good, was not due to the ice used therein?), at least makes desirable a further investigation of the subject before infection from ice is held to be a danger too remote to demand serious consideration.

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Waterworks
Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

Roads and Pavements

CHICAGO, ILL.—The requirements of the wide tire ordinance recently put in force are, for four-wheeled vehicles:

Min. width of tire.	Min. load, pounds.	Max. load, pounds.
1 inch	2,000	2,000
1½ inches	2,000	3,000
2 inches	3,000	4,000
2½ inches	4,000	5,000
3 inches	5,000	6,000
3½ inches	6,000	7,000
4 inches	7,000	9,000
5 inches	9,000	10,000
5½ inches	10,000	11,000
6 inches	11,000	12,000
6½ inches	12,000	14,000
7 inches	14,000	16,000
7½ inches	16,000	18,000
8 inches	More than	18,000

In all cases the tire is measured from side to side over all. The weight of the wagon is included in estimating the load. For two-wheeled vehicles the same weight per wheel per width of tire is allowed as above, but the weight of the vehicle is not counted. The regulations do not apply to vehicles equipped with rubber tires.

JOHNSTOWN, PA.—Johnstown is about to leave the class which it occupied with Lancaster in the matter of procedure for street paving. Half a million dollars have been spent in paving, paid for out of a general bond issue. Now it is proposed to divide the cost of paving between property owners and the city, as is the general rule in Pennsylvania cities.

LYNN, MASS.—Mayor George E. Duis, of Grand Forks, N. D., and a committee of Aldermen have been inspecting the street pavements of Lynn. Mayor Charles Neal Barney showed them the recently laid Hassam pavement, as well as other kinds laid in recent years. The new shore boulevard was inspected in automobiles, as well as the Atlantic ocean, which only one of the party had ever seen before. Grand Forks has \$200,000 to spend for street pavements this year.

MUNCIE, IND.—A committee of city officials, headed by Mayor Guthrie, has visited cities in Northern Indiana with a view to ascertaining what is the most popular pavement. In Bluffton they found brick giving better satisfaction than either asphalt or bitulithic. At Fort Wayne the asphalt pavements were found to be in excellent repair and giving satisfaction, while the brick streets were not so good. At Huntington both brick and asphalt were found to be giving excellent service, one brick street having been in use fourteen years. A bitulithic pavement there five years old is said to be giving way. When asked for a statement of their own views, members of the Board said they preferred to leave the matter to the property owners.

PHILADELPHIA, PA.—With a view to improve street traffic conditions, Mayor Reyburn has given orders that all wagons delivering coal or other goods must back up to the curbing diagonally instead of at right angles. In this way the blocking of street cars will be avoided.

POUGHKEEPSIE, N. Y.—A report on pavements has been made by a committee to the Civic League. Some of their recommendations are as follows: That a larger proportion of the cost of repavement (at present it is one-

third) be borne by the city at large. That the city employ a street expert or superintendent with a permanent tenure of office during faithful service, under the Board of Works. That more attention be paid to minor repairs and that a road scraper be used. That a ten or twelve-ton roller be used instead of an unwieldy and expensive 18-ton machine. That all stone proposed for use in macadam road be tested before being used. That a thorough trial be made of systems of sprinkling roads with tar and oil. That more attention be paid to street sweeping and sprinkling. That a vehicle tax be collected and credited to the repair fund.

WASHINGTON, D. C.—The work of regrading, resurfacing and otherwise improving Pennsylvania avenue from Sixth street to the Treasury has begun. New curbing will be put in and the car tracks will be relaid on a new grade. The grades will be raised from four to nine inches between Sixth and Eleventh streets, and between Twelfth and Thirteenth streets it will be raised almost a foot. Two new public reservations will be created, both small triangular spaces, one at Ninth street and the other at Tenth, the latter including in its area the statue of Benjamin Franklin. The intention is to work with a large force of men and have the work finished by the middle of October.

Sewerage and Sanitation

ALTON, ILL.—The Finance Committee of the City Council has voted to take up the project of building a trunk sewer to drain the east end of the city, part of the cost to be borne by general taxation. The sewer will inclose in part an open drain known as Shields' branch, which runs through the Illinois Glass Company's yards, and will admit of the reclamation of a large extent of land now useless.

PERTH AMBOY, N. J.—The State Sewer Commission recently visited the city to inspect existing sewers and plans for new ones. Owing to many complaints of contamination of oysters in the lower Raritan river by the sewage of Perth Amboy and other cities, the commission is very much dissatisfied with present conditions. They wish to have house drainage separated from surface drainage and purified at a disposal plant. In fact, it is only a matter of time when the double system of sewage will have to be adopted in all the cities of the State.

PHILADELPHIA, PA.—A dozen or more local builders appeared before the House Health Committee in opposition to State Health Commissioner Dixon's sewage system bill, which has passed the Senate. The lawyers argued that, despite reports to the contrary, the apprehensions of Philadelphia builders had not been allayed by explanations from Dr. Dixon's department. Messrs. Eaton and Clevenger said that the bill would "tie up and stop building" for the indefinite period during which preparations would go on to carry out the project of a disposing plant for Philadelphia's sewage, that might cost eventually \$100,000,000, they said. Some builders wanted a special amendment for Philadelphia; but the committee said the amendment must apply everywhere in the State.

ST. JOHNSVILLE, N. Y.—In the course of an investigation of a typhoid epidemic at St. Johnsville, Dr. E. H.

Porter found that the town's water supply is taken from mountain springs and that the watershed is well protected. However, the infection originated in the only house located on the watershed, in which a case of typhoid had occurred.

Waterworks

BELLINGHAM, WASH.—Ignoring the opinion of the City Attorney that it could not be legally done, the Water Board leased the city's pumping plant to the Whatcom County Light & Power Company, and the company will for the next five years supply water to the Sehome reservoir at a cost to the city of \$150 per month.

GALESBURG, ILL.—Stating that the finances of the Water Department were unsatisfactory, Mayor George Schumway, in a message to the Council, recommended that an investigation be made. He says that the waterworks plant cost \$300,000 and is worth \$500,000 and ought to pay 5 per cent. on that sum towards payment of debt and improvements. The actual receipts of the plant are \$1,400, and to that the Mayor says \$1,000 should be added as the fair value of hydrant rentals. The cost of operating is \$2,500 a month. This condition of affairs is attributed to a discrepancy between the water pumped and the water actually used. The water pumped is given as 24,000,000 gallons a month, of which 5,000,000 is accounted for by meters. Mayor Schumway, besides recommending an investigation, advises that the rates be revised, that a large meter be installed at the pumping plant, that the free list be suspended and that every service be metered. He advises the use of lead service pipes from the mains to prevent leakage; also the appointment of one of the two engineers at the pumping station as chief.

KANKAKEE, WIS.—A water ordinance establishing a flat meter rate of 15 cents per thousand gallons has been passed by Council. This action is the culmination of months of investigation and gives the city one of the best rates of any city in the Middle West where the plants are not owned by the municipality. It is anticipated that the water company will file a protest in the courts to show that the rates do not permit a fair return on the capital invested.

READING, PA.—A resolution was passed by the Board of Public Works to the effect that no charge would be made against the Reading Iron Company for the city water which they were obliged to use because the river was so badly contaminated with sewage. The matter was laid before the Water Board by Mr. Zubler, attorney for the company, who stated that the company was in the habit of using river water to supply its boilers at its pipe mill, and that during the last few months the water has been so polluted with house sewage that it foamed in the boilers, making its use impossible.

ROME, N. Y.—Instead of laying a water main under the roadway of East Bloomfield street, which is paved with asphalt, it has been decided to lay a 16-inch main south of the south sidewalk and a 6-inch main north of the north sidewalk.

SELMA, ALA.—The end of the long controversy between the city and the Selma Water Company came to an end by the recent transfer of the property to the city for the sum of \$175,000. The city withdrew all fines and penalties hereto assessed and paid its last quarter's hydrant rent. A Board of Water Works Commissioners will be chosen to conduct the affairs of the new department.

SPARTANSBURG, S. C.—The waterworks plant of the Home Water Supply Company, J. B. Cleveland, President, has been purchased by the city. The price paid for the plant is reported to have been about \$200,000, and

it is the intention to make many improvements to the system, at a cost of \$75,000. The price for water will be revised and reduced to cost.

WASHINGTON, D. C.—According to the report of Capt. Cosby for the month of March, the turbidity of Potomac water varied from 18 to 950, the average being 248. The influent gates were closed for 144 hours during periods of greatest turbidity, thereby excluding from the aqueduct system 1,200 tons of mud. Capt. Cosby says the percentage of reduction was as follows: Due to closing gates, 34 per cent.; Dalecarlia or receiving reservoir, 53 per cent.; Georgetown reservoir, 9 per cent.; Washington city reservoir, 19 per cent.; by action of the filters, 93 per cent. The total percentage of reduction between the Potomac river and the city water supply was 98. The daily average number of bacteria per cubic centimeter at various points of the system, Capt. Cosby says, showed a total reduction of 99.45 per cent.

Street Lighting and Electric Power

DETROIT, MICH.—An ordinance to define the quality and regulate the pressure of gas has been prepared by the gas experts employed by the city. The requirements are that the gas shall contain no sulphuretted hydrogen, shall not have more than 20 grains of sulphur or 10 grains of ammonia per 100 cubic feet; shall have a calorific value of 600 British thermal units; the pressure shall vary within the limits of $1\frac{1}{2}$ to $4\frac{1}{2}$ inches of water in all pipes which directly supply consumers. The qualifications of a Gas Inspector are also defined and his duties prescribed.

HAVERHILL, MASS.—The Haverhill Electric Company volunteered to keep its public service in operation during the nights of May 1 and 2, and take chances on renewing its contract and getting its pay; 203 arc lights and five incandescent lights being operated by them. Beyond that, however, the city was left in darkness, none of the 236 gas lights and 362 naphtha lights outside the center of the city being lighted. Because the two branches of the City Council could not agree as to the method of awarding the contract, Mayor Wood notified the Haverhill Electric Company and the Welsbach Company to abandon their service. The Welsbach company obeyed the order.

KAUKAUNA, WIS.—An unfavorable report on municipal ownership was made to the City Council by an aldermanic committee that visited Bellefontaine, Columbus, Richmond, Reeseville and Evansville. Alderman Martin said the lighting plant at Bellefontaine cost \$73,000; that the city owes \$322,000 bonded debts and has a tax rate of 4 per cent. The city owns waterworks, gas and electric-lighting plants, conducts extensive improvements and pays its public officials high salaries for superior tending the plants. Alderman Martin further says that in other cities, in the effort to make a good showing, plants are allowed to run down until the amount they are bonded for would not be covered by the present value of the property. President Charles W. Buchanan, of the Service Board of Bellefontaine, on seeing the report, stated that that city's electric plant is the most perfect in the State. He further says that private corporations are anxious to purchase the city's plants and would readily pay \$500,000 for the three municipal plants.

RAVENNA, N. Y.—The State Gas Commission has denied the application of the West Shore Electric Company for a certificate of authority to install an electric-lighting plant at Coeymans and to furnish electric service in Ravenna and in the village of New Baltimore. The Commission found that the territory is already supplied by the Upper Hudson Electric Company with an ample and well-constructed system furnishing service at a reasonable

rate. Such causes for dissatisfaction as existed may be remedied, and to that end the Commission directed the Union Hudson Company to install recording instruments, to renew its street series incandescent lights at least four times a year, and to exercise greater care in the operation of its plant.

Fire and Police

NEW BRITAIN, CONN.—A bicycle policeman has been appointed. He is to report for duty at 10 a. m., and covers the avenues and parks on the outskirts of the town. He retains his bicycle with him until 6 p. m. and in the evening does duty as a patrolman on Main street.

HARRISBURG, PA.—According to the report of Chief of Police Colonel Joseph B. Hutchison, the department last year made 2,453 arrests. The average number of miles traveled by the patrol wagon, with one team of horses working night and day, was 3,375. The department collected and turned over to the City Treasurer \$5,922. The department is a member of the National Bureau of Identification, with headquarters at Washington, D. C., where all photographs and records of criminals are sent for identification. Chief Hutchison notes that the ordinance requiring the police to keep out of politics is enforced and that the results are beneficial. The total strength of the department is one Chief, one Lieutenant, three Sergeants, two detectives, forty patrolmen, one clerk, two patrol drivers, and one janitor.

NEWBURGH, N. Y.—A contract for a new automobile fire engine has been signed by Mayor Robinson. The apparatus, which will be delivered in ninety days, will have a speed of from two to twenty miles an hour and will be able to ascend a hill of 15 per cent. grade at ten miles an hour. The apparatus will consist of two 35-gallon chemical tanks, 1,000 feet of hose, one 14-foot ladder with extension to 25 feet, 200 feet of chemical hose, one monitor connecting two streams in one, which, with 70 or 80 pounds' pressure will give a stream equivalent to a medium steamer. The cost of the machine is \$4,200.

NEW YORK, N. Y.—Commissioner O'Brien of the Department of Water Supply, Gas and Electricity has directed that parts of the high pressure water mains already completed shall be connected with the Croton low pressure water system by tapping the 48-inch main at Fifth avenue and Twenty-first street. This will make available for fire protection more than 300 four-nozzle hydrants and 74,000 feet of new mains, whose pressure will not be diminished by use for other purposes.

Government and Finance

MALDEN, MASS.—At a recent meeting of the Common Council, Mayor McCarthy's veto of the order recommending an increase in pay for the city laborers from \$2 a day to \$2.25 was read. The Mayor said it was a political scheme to get votes and that the Councilmen had better dig down in their own pockets for the money, as the city didn't have \$15,000 to give out.

SAVANNAH, GA.—Mayor Tiedman has worked out a tentative plan for refunding nearly \$3,000,000 of city bonds due in 1909 and issued thirty years ago. His idea is to issue fifty-year 4 per cent. bonds and provide a sinking fund to retire them when due, amounting to \$35,000, and increase it \$1,000 a year for every year thereafter. The first year's interest and sinking fund would be \$151,000 and would decrease to the fiftieth year, when the annual appropriation would be \$85,000 and the bonds would all be paid off.

TRENTON, N. J.—A statement filed by the State Board of Assessors shows the basis of the annual franchise tax upon cable, electric and horse railroad companies. The total trackage of these companies is 1,060,982 miles; the capitalization, \$98,377,860; funded debt, \$97,152,087;

other debts, \$28,122,749; cost of roads and equipment, \$178,420,772; cost of repairs and operation, \$7,289,409; gross receipts, \$12,209,738. Only nine of the sixty-three companies paid dividends last year, the total being \$885,890. The tax was originally 2 per cent. on gross receipts, is increased to 2 1-2 per cent. this year and will be increased half a per cent. until the total reaches 5. This year the total tax will be \$305,243, which will go into municipal treasuries.

Refuse Collection and Disposal

ALBANY, N. Y.—To facilitate the burning of waste on the city dumps, Commissioner Bissell has ordered built a large iron cylinder, eight feet in diameter, ten feet high, provided with a smoke stack. If the furnace meets the expectation of the Commissioner more will be ordered.

BUFFALO, N. Y.—The compromise with the Buffalo Sanitary Company, by which the city is to take over the company's refuse-destroying plant, has been approved by the Aldermen. The contract had fourteen months to run, after which the city would have to buy the plant at a fixed price of two-thirds its cost or renew the contract. As the city wishes to use the surplus heat for its Hamburg pumping station, Mayor Adam favored closing up the contract at once on a fair basis, so that the city could make changes, costing about \$25,000, which will be necessary in order to make it possible to generate power.

CHICAGO, ILL.—One hundred thousand circulars have been ordered printed by Superintendent of Streets Doherty calling upon citizens to proceed at once to obey the clean-street ordinance. The notices in effect are: "You are hereby notified that the clean-street ordinance provides that all persons cleaning off sidewalks shall first sprinkle same. The dirt must be gathered in convenient heaps or receptacles, in order that it may be taken away readily by the proper wagons. There must be no littering streets or alleys. Keep premises as cleanly and healthy as possible."

DENVER, COL.—Mayor R. W. Speer has issued a proclamation, naming certain days for cleaning up, one day being assigned to each of several sections of the city, that the city carts may be on hand to immediately remove the rubbish. He makes the following suggestions:

Gather up all the dirt or rubbish in your yard, and place it on a pile in alley the morning of your clean-up day, but not after that date. (This does not include ashes or manure.)

Rake on a pile, the tin cans, bottles, etc., on the vacant lots near you, the day before your clean-up day, and they will be hauled away by city teams.

Plant trees and sow grass—do not live without a lawn.

Repair your fences, gates and sheds—paint or whitewash them.

Burn all your rubbish possible. Do not throw it in the street, alley or vacant lots.

Repair your sidewalk.

Take all dandelions out of your lawn—they spoil its beauty and in time will destroy it.

If your residence, store front, wagons, signs or automobiles look old or faded, have them repainted.

Keep down the weeds on your property, and while they are young have them destroyed on the vacant lots near you.

If your awnings are old, torn or faded, get new ones.

Do not spit on the sidewalks. The city is trying to keep those in the business district especially clean by washing them several times each week.

Wherever you find anything unhealthy which you cannot remedy, telephone the Health Department at City Hall.

Sewer connections, garbage cans and ash pits are necessities for cleanliness at each home. See that they are provided, kept clean and in good condition.

MUNCIE, IND.—The general plan of sprinkling the streets of Muncie under a contract such as was let last year will not be carried out this year. For a second time the Board of Works has rejected bids because they were too high. The Union Traction Company bid for sprinkling streets on which there are car tracks from May 15 to November 15 was \$24 per 10,000 square feet. For sprinkling

streets with no car tracks a local contractor bid \$25.45. Whether sprinkling will be left to individual property owners or whether some plan of municipal sprinkling can be carried out is uncertain. If done by contract, the cost of the work can be assessed on abutting property owners, the same as in the case of a permanent improvement; but the law does not provide for this method of payment if the work is done by the city.

PITTSBURG, PA.—A bill amounting to \$100,000 for street cleaning was presented to the Pittsburgh Street Railways Companies soon after Mayor George W. Guthrie came into office. In the course of investigations of the matter of franchises the Mayor came to the conclusion that the railway company was responsible for the cost of street cleaning. In fact, it is claimed that the street cleaning bill amounts to \$1,000,000. However, a bill for \$100,000 for one year's cleaning was presented and, as it has not been paid, City Controller John B. Larkin announces that he will sue for it.

SEATTLE, WASH.—“Allow the present state of affairs to continue six weeks longer and there will be the most serious epidemic of disease the city has ever seen,” says Dr. Grant Calhoun of the Seattle Board of Health. The statement was called forth by the failure of the present licensed garbage collectors to cover their territory properly. Only the licensed contractors are allowed to haul away refuse, and their failure results in accumulation of cans and garbage in many back yards and alleys. Pending the completion of the crematories the Board of Health wants a new dump started and more garbage contracts let.

Parks and City Beauty

ALLEGHENY, PA.—The rehabilitation of West Park, which for several years has been practically a mud hole and an eyesore to Alleghenians, has begun. New and shorter walks have been laid out, a portion of the drive elevated and soon work of grading the ground, planting sod, laying walks and macadamizing the drives will be completed. Public Works Director Swan says that by the annual school jubilee day, the last of June, the park will be in good condition.

PORTSMOUTH, N. H.—The Mayor, the Superintendent and the City Improvement Society are busy on plans for beautifying Haven Park. In response to an invitation, Professor Fowler has looked over the situation. Later a survey of the park will be made and a plan prepared for work that will cover a period of years. The Improvement Society will pay the bills for many alterations that are to be made.

PROVIDENCE, R. I.—Seven and possibly eight public playgrounds will be open this summer, according to the decision of the committee on playgrounds. Courtland, America, Public and Charles street grounds will be reopened and at Julian, Bourne and Candace streets there will be new grounds. The committee has reappointed the twelve attendants who served last year, seven of whom are women.

SUPERIOR, WIS.—An interesting experiment in the value of publicity as a means of correcting public abuses is about to be tried by the Improvement League. After politely requesting property owners to clean up rubbish in their back yards and giving them a reasonable time to remedy the unsightly conditions, the league will engage photographers to take pictures of the premises. The *Telegram* will reproduce these pictures, with a description of the location and the names of the owner or the lessee of the property.

Rapid Transit

BOSTON, MASS.—The Boston Elevated Railway Company has sold securities to the amount of \$14,000,000 and

will spend \$6,000,000 on the construction of the Cambridge subway and the balance for the extension of the company's elevated system from Boston to Forrest Hills and for additions to power stations.

CLEVELAND, O.—The City Council at a special meeting granted a franchise to the Low Fare Railway Company on the Central and Quincy avenue routes, on which the Cleveland Electric recently suspended operations.

NEW YORK, N. Y.—George S. Rice, Chief Engineer of the Rapid Transit Commission, says: “In order to bring about the discontinuance of the notorious overcrowding and indecent conditions now prevailing on all transportation lines in the city, it is imperative that ten four-tracked subways, with facilities for the operation of ten-car trains, be provided for Manhattan, Brooklyn and the Bronx within the next ten years.” He estimates that by 1916 the present traffic in all parts of the city will be doubled. Last year in Manhattan and the Bronx the number of rides averaged 333 per inhabitant, in Brooklyn 278. In Manhattan, even if three subways of four tracks each were to be constructed at once, operating ten-car trains, overcrowding would occur by 1911.

PITTSBURG, PA.—The first car over the new single-phase electric line of the Pittsburgh and Butler Street Railway Company recently entered the city. It is the handsomest piece of rolling stock ever run over an electric line in or about Pittsburgh. In general appearance it resembles a Pullman sleeper rather than a trolley car.

Miscellaneous

BALTIMORE, MD.—Baltimore's Bureau of Legislative Reference, which was inaugurated January 1 by the appointment of Mr. Horace E. Flack as executive, is attracting much attention throughout the county. Judging from the inquiries received, it is believed that several cities intend to copy the bureau. Recently word was received that the Secretary of the City Club, New York, would visit Baltimore to look into the workings of the bureau. From Toronto, Canada, also, information has come that a representative will be sent to investigate Mr. Flack's work.

DETROIT, MICH.—Mayor Thompson has submitted an ordinance to the Council providing for the placing of watchmen at all the railroad crossings in the city, fifteen in number, the men to shift every eight hours. In a letter accompanying his draft of the ordinance the Mayor refers to the frequency of accidents due to collisions with street cars, and says he declines any longer to bear the burden of inaction. He believes it important that the watchmen should not be on duty an unreasonable number of hours and that they should become acquainted with the schedules of the steam roads.

HARRISBURG, PA.—A city flag has been adopted by the Council, of which the following is a description: A field of dark blue, rectangular in form, of which the length shall be one and one-third times its width, with a narrow gold or yellow border; in the middle of the field and slightly above the center a large white keystone, having thereon outlined in blue the dome of the State Capitol rising from clouds; above the dome, at the dexter or right side, a roundel or disk of gold or yellow, and at the left a fleur-de-lis of gold or yellow; below the dome three crescents, two above one, of gold or yellow; and beneath the keystone the word “Harrisburg,” in gold or yellow, slightly curving upward.

SPRINGFIELD, O.—The Board of Health has requested the City Solicitor to draw up an ordinance creating a pension fund for sanitary police. The Board believes that the Sanitary Marshal is subject to more dangers as to life than a regular policeman, as he has to combat disease as well as troublesome people.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

DAMAGES FROM OVERFLOW

Holzhausen vs. City of New York.—The defendant appealed from a judgment against it in an action for damages to personal property from the overflow of the defendant's sewer. The court said it appeared that the damages were due to the single instance of the water coming through the closet and the sink due to an excessive, exceptional and, so far as municipal records show, unprecedented rain storm, whose fall almost equaled one-fourth of the annual rainfall of the vicinity. In deciding adversely to the claim of the plaintiffs for damages, it was held that the duty of draining the streets and avenues of a city or village is one requiring the exercise of deliberate judgment and discretion and that the city is not bound to provide against extraordinary and excessive rainfalls.—New York Supreme Court.

TO BUILD SEWER

Horton vs. Bronx Valley Sewer Commissioners.—Supreme Court Justice Keogh has denied the application to continue the injunction restraining John E. Andrus, William Archer and John J. Brown, Commissioners on the Bronx Valley sewer, from continuing work on the sewer. The application for a permanent injunction had been brought by a resident of White Plains.—New York Supreme Court.

MUNICIPAL RESPONSIBILITY

Aiken vs. Columbus, Ind.—Municipal ownership and the management of municipal utilities does not make such business a government function to the extent of relieving the city from liability for negligence, and it must pay damages to a person injured by the fall of a defective live wire.—Indiana Supreme Court.

PAVING REQUIREMENT

Fair Haven and Westville Railroad Company vs. New Haven.—The validity of an assessment of \$36,879, against the company, for the cost of paving between its tracks and for one foot on each side thereof, was involved. The court holds that by its original charter the company was required to keep the street between its tracks, with a space of two feet on each side of the tracks, in good and sufficient repair. It was also provided that the act might be altered, amended, or repealed at the pleasure of the general assembly. In the amendment of the charter in 1864 this obligation was retained, and also in the public acts of 1893. In the act of 1895 the duty of paving and repaving was imposed on all railway companies. The court assumes, for the purpose of its discussion, that the duty to repair did not include the duty to pave and repave. The company was given the right to occupy the streets. It exercised this right first with a single track and afterwards with a double track. Before granting this right the State certainly could have, and reasonably could have, put upon the company the

duty of paving as well as of repairing. Such requirement would have been consistent with the object of the grant. It is yet consistent with the object of the grant. It is not imposed in sheer oppression and wrong, and the good faith of the State cannot be questioned. It is imposed in the exercise of one of the public rights of the State—the establishment, maintenance, and care of the highways.—United States Supreme Court.

HEIGHT OF BUILDINGS

Welch vs. Swasey.—A statute limiting the height of buildings in the city of Boston, Mass., is within the police power of the Legislature, and, further than that, in such legislation the parts of the city may be divided into two classes, for each of which a special rule is furnished.—Supreme Court, Massachusetts.

GRADE CROSSING

City of Hickory vs. Southern Railway.—In a suit to restrain a railroad from erecting a freight warehouse in the city on the ground that it would create a public nuisance by obstructing the view along the tracks and therefore make it dangerous for a person to cross the tracks, the jury found that the structure would constitute a public nuisance, but found, also, that the railroad should be permitted to avoid a perpetual injunction by erecting suitable gates and providing gatemen, as is usual and customary at dangerous crossings.—Supreme Court, North Carolina.

INCORPORATIONS

A. J. Buschmann Company, New York; engineering and contracting; capital, \$5,000. Incorporators: Anthony H. Buschmann, Long Island City, L. I.; Joseph L. Banzl, 56 East 122d street, Fernand Beck, 30 Macomdam road, both of New York.

Cortland Construction Company, Cortland, N. Y.; general construction; capital, \$10,000. Incorporators: N. A. Bundy, 508 King street, Philadelphia; Benjamin L. Webb, Cortland, N. Y.; George S. Cady, Moravia, N. Y., and others.

Gilmour-Horton-Allen Company, Sandy Hill, N. Y.; general contractors; capital, \$24,000. Incorporators: Marcus C. Allen, Sandy Hill, N. Y.; Herbert Horton and William J. Gilmour, Glens Falls, N. Y.

Lake Champlain and Lake Placid Traction Company, Au Sable, N. Y.; electric street railroad; capital, \$1,500,000. Incorporators: Albert L. Washburn, Norman C. Spencer, Henry F. Smith, Hartford, Conn., and others.

The Linda Water Company, Colton, Cal.; capital, \$24,000. Incorporators: G. A. Patton, Strong City, Kan., and others.

St. Louis, Terre Haute and Quincy Traction Company, Quincy, Ill.; to construct a railway from State line opposite Terre Haute, Ind., to Venice and Quincy, Ill.; capital, \$25,000. Incorporators: Edward Yates, Peter Chase, G. W. Payne.

Seaboard Portland Cement Company, Catskill, N. Y.; to manufacture cement, etc.; capital, \$100,000. Incorporators: John J. Donovan, 408 Manhattan avenue; Thomas H. Low, 226 West 113th street; N. A. Stancliffe, 219 West 104th street; Thomas E. Fitzgerald, 32 Nassau street; M. J. Kelly, 140 Nassau street, all of New York.

United States Meter Company, Brooklyn, N. Y.; to manufacture meters for water, gas and electricity; capital, \$100,000. Incorporators: Howard Marwell, 182 Congress street; John G. Buchler, 178 Somers street; James Grady, 1075 Halsey street; Philip Ranch, 96 Linwood street; E. R. Ellsworth, 774 Flatbush avenue, all of Brooklyn.

Utica Sanitary Milk Company, Utica, N. Y.; milk, cream, butter, etc.; capital, \$70,000. Incorporators: Charles E. Benton and Walter D. Middleton, Utica, N. Y.; S. J. Weaver, Deerfield, N. Y., and others.

Westford Water Company, Westford, Me.; waterworks; capital, \$70,000. President, Edmund W. Blake, Brookline, Mass.; treasurer, Henry J. Hart, Canton, Me.; clerk, Edwin A. Hutchinson, Newtonville, Mass.

PATENT CLAIMS

850,382. Process for Surfacing Pavements. George H. Lutz, Kansas City, Mo.; assignor to Equitable Asphalt Maintenance Company, a Corporation of Missouri. Serial No. 345,061.

The process of surfacing pavements consisting of heating a base, of applying a wash of a bituminous nature thereto, and in applying a coat of thick asphalt, or like material to said base when so treated.

850,416. Means for Purifying and Sterilizing Water by Ozonized Air. James H. Bridge, Philadelphia, Pa. Serial No. 356,154.

Means for purifying or sterilizing water, comprising a pipe having an uptake leading therefrom and a receptacle provided with obstructions, the latter directly connected with said uptake, the construction and arrangement being such that ozonized air, by the suction action of the flowing water, is drawn into the body of water by a gradually-increasing pressure, and then, by a gradually-decreasing pressure induced by the water, presented to the obstructions of said receptacle for prolonging the ozonized air in intimate contact with the water for variable periods to insure thorough sterilization of the water.

850,504. Differential Clip for Aerial Ropeways, etc. Yusuke Tamamura, Ahiio, Japan. Serial No. 350,846.

In apparatus of the class described, a grip formed of two jaw-levers of different length flexibly connected to the carriage in such manner as to be moved differential angular distances by a common vertical movement of their free ends.

850,625. Apparatus for Threading or Laying Electric Conductors in Conduits or Pipes. Thomas J. Cope, Philadelphia, Pa. Serial No. 321,117.

In an apparatus of the character stated, a sleeve, a stem therefor, an arm mounted on said sleeve, a shoe journaled on said arm, a wedge with which said stem is connected and means for operating said sleeve, means within the sleeve for interlocking the same with the stem, said stem and the opening in said sleeve in which said stem is guided being of angular form.

850,648. Dumping Apparatus. Samuel W. Hopkins, Enterprise, Kan. Serial No. 316,389.

In dumping apparatus, a rotatable platform, inclined guideway, mounted on said platform in an elevated position, a fixed approach, inclined guideways on said approach leading to the lower ends of the guideways on the platform, and means for locking both guideways together.

850,799. Dumping-Wagon. Roy A. Showers, Shenandoah, Iowa. Serial No. 350,595.

A dumping-wagon comprising a running-gear, auxiliary sides having slots supported by said running-gear, a wagon-body having trunnions projecting from the opposite sides thereof passing through said slots, rack-bars secured to the under side of said body, a shaft having gears fixed thereto, in engagement with said rack-bars, and means for operating said shaft whereby said body is shifted on said trunnions in said slots.

850,866. Curbing. Clinton E. DeClements, Detroit, Mich. Serial No. 356,533.

A curb formed of plastic material, burnt, and its outer surfaces vitrified, said curb provided with a gutter on one side and formed with longitudinal grooves on the other side of its upwardly-projecting wall, substantially as described.

851,011. Device for Burning Vegetation and Melting Snow and Ice. Wilbert W. Lamb, Chicago, Ill. Serial No. 291,942.

In a vegetation-burner, a Bunsen feeder carrying a multiplicity of Bunsen burners, in combination with generating devices comprising coiled portions of pipe and straight portions positioned below and parallel with the coils and connected with opposite ends of the Bunsen feeder, and a fuel-regulating valve at each end of the Bunsen feeder.

851,160. Water-Purifying Apparatus. John F. Chase, St. Petersburg, Fla. Serial No. 338,287.

An aerating drum for water-purifying apparatus, comprising a cylinder having a series of perforated disks arranged alternately therein, said disks having a central opening surrounded by a collar, and a conical shaped cover or top.

851,247. Waterproof Portland Cement and Process of Making Same. Spencer B. Newberry, Sandusky, Ohio. Serial No. 249,786.

The process of rendering cement waterproof, which consists in mixing therewith a small percentage of the insoluble lime salt of a fatty acid, substantially free from glycerine or other soluble substance.

NEWS OF THE SOCIETIES

Municipal Engineers Society of the City of New York.—The regular monthly meeting was held in the Engineering Societies' Building, April 24, President Rice in the chair. Mr. John T. Fetherstone, Superintendent of Street Cleaning, Borough of Richmond, read a paper on "Some Notes on Refuse Destruction and Municipal Cleaning." The paper consisted of a discussion of the different kinds of destructors which the author had seen abroad in the course of investigations conducted for the city of New York. The lecture was illustrated with lantern slides. Messrs. Stearns and Lewis spoke on the operations of the Street Cleaning Department in the Borough of Manhattan. Mr. Stearns explained the details of rubbish destructors and a dump pier which he designed.

Washington Society of Engineers.—At a special meeting of the Society in Hubbard Memorial Hall the proposition of the United States Government to purchase its coal upon the basis of its heating quality instead of a contract price per ton, was the subject under discussion. Mr. J. G. Woodell, Inspector of Electric Light Plants of the Treasury Department, spoke in favor of the government specifications which establish a standard and then allow a premium where the standard is exceeded and exacting a forfeit where it is not attained. S. S. Voorhees, Engineer of Tests, Supervising Architect's Office, Treasury Department, read a paper on "Methods of Testing Coal." A paper on "Economic Utilization of Coal in Power Plants" was given by D. T. Randall, Engineer, Geological Survey, and "Mining Operations as Affecting Quality of Coal," by M. R. Campbell, of the Geological Survey.

New York Electrical Society.—A meeting, attended by 500 members, was held April 24 at the power station of the Interborough Rapid Transit Company, Fifty-ninth street and Eleventh avenue, and the plant was inspected.

The Detroit Society of Engineers.—The annual meeting was held April 26, in the Stevens Building. Reports of the outstanding committees were read and the election of officers followed. The society has been increasing in the past year. The number recorded at the last annual meeting was 194, to which there has been 34 added. An effort is being made to increase the library, plans being afoot to make it one of the best of its kind in Detroit, and a committee was appointed for the purchase of the new volumes. After the close of the business meeting the society adjourned to the Ste. Claire Hotel for an elaborate banquet. Officers were elected as follows: President, E. S. Wheeler; first vice-president, George Matteson; second vice-president, A. L. Colby; C. W. Hubble was re-elected as secretary and treasurer.

League of Seashore Mayors.—A meeting was held at Cape May, April 24. The league is interested in having the waterways marked from Cape May to Atlantic City. Mayor Story, of Atlantic City, is president.

American Mosquito Extermination Society.—The society held its fourth annual meeting at the Union League Club, April 20. Dr. L. O. Howard, of Washington, the Government's chief entomologist, told of the work in foreign lands. He sailed the next day on a tour of investigation for the Department of Agriculture. Dr. E. Porter Felt, the New York State Entomologist, referred to the need

of a State appropriation for researches into the habits of the mosquito. Prof. Vandine, member from Honolulu, spoke on the outlook for again having the Hawaiian Islands free from the pests which were introduced by a whaler many years ago. Walter C. Kerr, President of Westinghouse, Church, Kerr & Co., spoke on the success of the city's work of extermination on Staten Island, under supervision of Dr. Doty, Health Officer of the Port of New York; Dr. Charles B. Davenport, of Carnegie Institute, and Dr. Gibson, Health Officer of Huntington, L. I., on the work of locating breeding places in the neighborhood; E. M. Bentley, of the work at Lawrence, L. I., where, though surrounded by salt marshes, great headway has been made; Spencer Miller, of the way the State of New Jersey was led to authorize the expenditure of hundreds of thousands of dollars, and Colgate Hoyt, banker and President of the Automobile Association of America, on the need of the co-operation of everyone in a community—how even one person may affect the success. Resolutions were adopted urging the New York Legislature to include an appropriation of \$10,000 in the supply bill for scientific basal work. The following officers were re-elected: Wm. J. Matheson, president; Walter C. Kerr, vice-president; Frederick C. Beach, treasurer; Henry Clay Weeks, secretary. W. C. Kerr, chairman; Advisory Board, Robert W. deForest; Advisory Board of Entomologists, Leland O. Howard, Ph.D.

North Dakota Municipal League.—The program for the joint conventions of the League and the Civic Improvement Association, to be held in Valley City on June 4, 5 and 6, has been finally completed. It will be as follows:

Tuesday, June 4.—2 p. m.—Address of Welcome, Mayor L. A. Wood, of Valley City. President's Response, Mayor J. A. Johnson, of Fargo. Address, Mayor Duls, of Grand Forks, "Municipal Regulation of Public Corporations." Address, Dr. John A. Gillett, of the Valley City Normal, 8 p. m.—Hon John McVicar, Secretary and Treasurer of the American League of Municipalities. New York, "Municipal Government by Mayor and Council vs. Municipal Government by Commission." Address, Senator Hansbrough, "Development of N. D. Municipalities."

Wednesday, June 5.—9 a. m.—Automobile drive. Address, Mayor Greenleaf, of Minot, "Municipal Legislation." Address, Mayor Smyth, Bismarck, "Enforcement of Prohibition Law in Cities." 2 p. m.—Address, Governor John Burke, "Assessment and Taxation." Address, S. F. Crabbe, City Engineer of Fargo, "Special Improvements in Cities." 8:30 p. m.—Public reception.

Thursday, June 6.—9 a. m.—Address, "Street Parkings," Fred Nessbaumer, Street Commissioner, St. Paul. Discussion, "What Can an Improvement League Do?" 2 p. m.—Address, Hon. C. M. Loring, Minneapolis, 3:30 p. m.—Symposium, "Outdoor Art," led by Mrs. Oliver of Lisbon, Mrs. Bolley of Fargo and Miss Reeve of Buxton. 8 p. m.—Address, Rev. Charlotte Bartlett Crane, Kalamazoo, Mich., "Civic Improvement."

Calendar of Meetings

May 8-10. Texas State Firemen's Association.—Convention and Tournament, McKinney, Texas.—J. S. Schmitz, Secretary, Denton.

May 8-10. Texas State Firemen's Association.—Convention, McKinney, Tex.—W. M. Abernathy, Mayor, Chairman, Committee on Entertainment.

May 15. American Society of Civil Engineers.—Regular meeting, House of the Society, 220 West Forty-seventh street, New York City.—Charles Warren Hunt, Secretary.

May 15. Western Society of Civil Engineers.—Regular meeting.—J. H. Warden, Secretary, 1737 Monadnock Block, Chicago, Ill.

May 22-24. National Fire Protection Association.—Annual meeting, New York City.—W. H. Merrill, Secretary, 382 Ohio street, Chicago, Ill.

May 28-30.

American Society of Mechanical Engineers.—Spring meeting, Indianapolis, Ind.—Calvin W. Rice, Secretary, 12 West Twenty-first street, New York.

June 1-4.

American Anti-Tuberculosis League.—Annual convention, Atlantic City, N. J.—Dr. George Brown, Atlanta, Ga., President; Dr. Edward Guion, 1408 Atlantic avenue, Atlantic City, N. J., Vice-President.

June 4-6.

Michigan State Firemen's Association.—Thirty-third annual convention, Detroit, Mich.—A. P. Lane, Secretary, Ithaca, Mich.

June 4-7.

National Electric Light Association.—Annual meeting, Washington, D. C.—W. C. L. Elgin, Secretary, 29 West 39th street, New York City.

June 4-6.

North Dakota Municipal League.—Convention in conjunction with the Civic Improvement Association, Valley City.

June 6-8.

League of Michigan Municipalities.—Ninth annual convention, Art Museum, Detroit, Mich.—John A. Fairlie, Ann Arbor, Secretary.

June 12.

National Conference of Charities and Correction.—Thirty-third Conference, Minneapolis, Minn.

June 17-22.

American Water Works Association.—Twenty-seventh annual convention, Toronto, Ontario, Canada.—Dabney H. Maury, President; J. M. Diven, Charleston, S. C., Secretary.

June 18.

International Association of Chiefs of Police.—Annual convention, Auditorium, Jamestown Exposition Grounds.—Major Richard Sylvester, President, Washington, D. C.

June 18-20.

Municipal League of Indiana.—Meeting, Logansport, Ind.—Councilman J. T. McNary, Chairman, Local Committee, Logansport.

June 20-22.

American Society for Testing Materials.—Annual meeting, Atlantic City, N. J.—Edward Marbury, Secretary, University of Pennsylvania, Philadelphia.

June 20-22.

The Playground Association of America.—First Annual meeting, Chicago, Ill.—Dr. H. S. Curtis, Secretary.

June 25-28.

American Institute of Electrical Engineers.—Annual meeting, Niagara Falls, N. Y.—Ralph W. Pope, Secretary, 29 West 39th street, New York City.

June 26-28.

International Association for the Prevention of Smoke.—Second annual convention, Milwaukee, Wis.—Charles Poetke, Smoke Inspector, Milwaukee, Wis.

July 8.

American Society of Civil Engineers.—Annual convention, Mexico City.—Charles Warren Hunt, Secretary, 220 West 57th street, New York City.

July 17-19.

National Electrical Contractors' Association.—Seventh annual convention, New York City.—J. C. Hatzel, Chairman, 571 Fifth avenue, New York, N. Y.

August 6-8.

American Association of Park Superintendents.—Annual convention, Toronto, Ont.—F. L. Mulford, Secretary, Harrisburg, Pa.

August 7-9.

The International Association of Municipal Electricians.—Annual convention, Jamestown Exposition, Norfolk, Va.—F. P. Foster, Secretary, Corning, N. Y.

August 20-23.

New York State Firemen's Association.—Convention, Elmira, N. Y.

September 17-19.

American Society of Municipal Improvements.—Annual convention, Detroit, Mich.—George W. Tillson, Secretary, Municipal Building, Brooklyn, N. Y.

September 17-19.

League of Iowa Municipalities.—Tenth annual convention, Council Bluffs, Iowa.—T. G. Pierce, Secretary, Marshalltown, Ia.

September 19-21.

League of American Municipalities.—Annual convention, Jamestown Exposition.—John MacVicar, Secretary, Des Moines, Ill.

October 8-11.

International Association of Fire Engineers.—Thirty-fifth Annual Convention, Washington, D. C.

October 14-18.

American Street and Interurban Railway Association.—Annual convention, Atlantic City, N. J.—B. V. Swenson, Secretary, Engineering Societies' Building, 33 West Thirty-ninth street, New York.

November 19.

National Municipal League.—Annual convention, Providence, R. I. (in conjunction with the American Civic Association).—Charles Y. Bonaparte, Secretary.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Street Improvements				
Illinois.....	Chicago.....	May 9, 10:15 A.M.....	Paving, 22 contracts; 15 asphalt, 2 blast furnaces, slag, 3 granite block, 1 brick, 1 limestone and granite.....	John A. May, Sec'y Bd. Local Im.
Indiana.....	Winchester.....	May 9, 1 P.M.....	Constructing 27 miles, crushed stone, 12 roads	Mack Pogue, County Auditor.
West Virginia.....	Parkersburg.....	May 9, 8 P.M.....	Asphalt paving, comb. curb and gutter, Julia Street.....	City Engineer.
Ohio.....	Jefferson.....	May 9.....	Constructing State highway.....	Sam Huston, Columbus, Com'r.
Indiana.....	Indianapolis.....	May 9.....	Improving about ten highways.....	Mack Pogue, Co. Auditor.
New York.....	Buffalo.....	May 10, 11 A.M.....	Paving 4 sts., various pavements.....	F. G. Ward, Com'r Pub. Works.
Ohio.....	Mansfield.....	May 10, noon.....	Laying 15,000 yds. brick, 10,000 yds. grading, 3,500 yds. cement or flag walks, 400 cu. yds. concrete retaining wall; also 3,000 bbls. cement.....	Loren Keith, City Engineer.
Kentucky.....	Louisville.....	May 10.....	Paving, etc., 9 sts.; 3,600 yds. exc., 8,800 yds. vit. block; cost, \$23,000.....	Joseph P. Claybrook, City Eng.
Wisconsin.....	La Crosse.....	May 10.....	Macadamizing Market Street.....	W. S. Woods, City Engineer.
Ohio.....	Cincinnati.....	May 10.....	Improving three roads.....	Fred Dreihls, Clerk Co. Com'rs.
Ohio.....	Cincinnati.....	May 10.....	Laying macadam, curb, etc., 2 sts., cost, \$11,800.....	M. J. Keefe, Clk. Bd. Pub. Serv.
Indiana.....	Galesburg.....	May 10.....	Building 15,000 ft. macadam road; also another road.....	Frank E. Ryan, County Auditor.
Kentucky.....	Danville.....	May 10.....	Improving turnpikes in County.....	John Fogarty, Fiscal Court.
Ohio.....	Columbus.....	May 10.....	Paving bridges, grading approaches, etc.....	W. C. Cussins, Co. Auditor.
Indiana.....	Perre Haute.....	May 11, 11 A.M.....	Grading, graveling, etc., 12,552 ft. road.....	County Commissioners.
Oklahoma.....	Lawton.....	May 11.....	Paving, sewers, etc.; cost, \$260,000.....	John D. Kennard, Engineer.
Indiana.....	Peru.....	May 11.....	Paving Water St. with brick.....	Michael Horan, City Engineer.
Pennsylvania.....	East Allen.....	May 11.....	Constructing 40,168 sq. ft. road.....	Jos. W. Hunter, Harrisburg, Com'r.
Kentucky.....	Louisville.....	May 12.....	Paving 15 blks. with brk., requiring 1,350,000.	J. P. Claybrook, City Engineer.
New Jersey.....	Bernardsville.....	May 13.....	Macadamizing 5,450 ft. of road.....	Anthony Schumacher, Engineer.
Illinois.....	Chicago.....	May 14, 11 A.M.....	Grading and macadamizing 12 blocks.....	John J. Hanberg, Com'r Pub. Works.
Ohio.....	Hamilton.....	May 14, noon.....	Laying brick, asphalt or bitulithic, S. 2d St.....	A. Rothwell, Sec'y, Bd. Pub. Serv.
Minnesota.....	Crookston.....	May 14, 8 P.M.....	Asphalt paving 10,000 sq. yds., curb and tile, Houston Ave.....	J. E. Carroll, City Engineer.
Ohio.....	Chardon.....	May 14.....	Paving with brick and curbing S. Main St.....	Robt. S. Parks, Village Clerk.
Ohio.....	Marion.....	May 14.....	Brick paving; also stone sidewalks on streets.	Wm. Fies, Clk., Bd. Pub. Serv.
New Jersey.....	Trenton.....	May 14.....	Grading, macadamizing, etc., 7 roads.....	Frank J. Eppele, County Engineer.
Illinois.....	Chicago.....	May 15, 11 A.M.....	Repairing and macadamizing 4 avenues.....	John J. Hanberg, Com'r Pub. Works.
Rhode Island.....	Providence.....	May 15, noon.....	Constructing roads 117,320 ft. long, 4 sections	State Board of Public Roads.
District of Columbia.....	Washington.....	May 15, noon.....	Furnishing granite curb, asphalt and vit. blk., sewer brick, terra cotta sewer pipe, vit. sewer invert, blks., repressed vit. sewer invert brick, Portland and natural cement and miscellaneous castings.....	H. B. F. Macfarland, Commissioner.
Mississippi.....	Natchez.....	May 15, 5 P.M.....	Paving 22,500 sq. yds. asphalt, bitumen or brick.....	The Mayor.
New York.....	Brooklyn.....	May 15.....	Grading, curbing, etc., various streets.....	Bird S. Coler, President.
Iowa.....	Des Moines.....	May 16, 11 A.M.....	Laying 2,512 lin. ft. cement curb and gutter, 18 in. wide, 6 in. deep, High St.....	W. W. Wise, Chm. Bd. Pub. Wks.
West Virginia.....	Bluefield.....	May 16, 2 P.M.....	Macadam and brick on concrete base.....	George H. Hill, City Engineer.
Ohio.....	Paulding.....	May 16, 2 P.M.....	Grading, draining and macadamizing about 25 miles Shaw, Briceton and Snyder pikes.....	C. L. Straw, Engineer.
Wisconsin.....	Fond du Lac.....	May 16.....	Constructing tar macadam pavement, Park Avenue.....	City Clerk.
Iowa.....	Des Moines.....	May 18, 11 A.M.....	Laying 2,070 yds. brick, 1,094 yds. asphalt, 6,661 cement curb and gutter.....	W. W. Wise, Chm. Bd. Pub. Works.
Ohio.....	Wells.....	May 18, 2 P.M.....	Grading a township road.....	James Hall, Brilliant.
Wisconsin.....	Marinette.....	May 18, 2 P.M.....	Improving 2 sts., 3-in. granite top.....	City Clerk.
Kentucky.....	Louisville.....	May 18.....	Paving streets with asphalt; cost, \$40,000.....	J. P. Claybrook, City Engineer.
Ohio.....	Cleveland.....	May 18.....	Grading, draining, paving Northfield road.....	A. B. Lea, County Surveyor.
Indiana.....	Goshen.....	May 20, 7 P.M.....	Paving Sixth St. with asphalt.....	City Council.
Connecticut.....	Bridgeport.....	May 21, 8 P.M.....	Constructing 14,500 sq. yds. wood or vit. blk. pavement on Fairfield avenue.....	A. V. Hartley, Chm. Com. Sts. and Sidewalks.
Ohio.....	Plymouth.....	May 21.....	Macadamizing and piking 4 miles of road.....	Albert Kirkpatrick, Village Clerk.
Ohio.....	Norwalk.....	May 21.....	Constructing State highway.....	Sam Huston, Columbus, Com'r.
Ohio.....	Mansfield.....	May 22.....	Constructing State highway.....	Sam Huston, Columbus, Com'r.
Ohio.....	Creston.....	May 22.....	Brick paving, curb, etc., Main St.....	C. A. Tenney, Village Clerk.
New Jersey.....	Cape May.....	May 23, noon.....	Constructing 2 State and County roads.....	Fendall Smith, County Engineer.
Ohio.....	Lisbon.....	May 23, noon.....	Constructing State highway.....	Sam Huston, Columbus, Com'r.
Minnesota.....	Albert Lea.....	May 27.....	Constructing 3,310 ft. cement curb, 540 ft. 10 in. sewer pipe, 5 catch basins, Park Ave.	Wm. Barneck, City Engineer.
Wisconsin.....	La Crosse.....	May 28.....	Laying 8,500 yds. macadam, 9,000 yds. creosoted wood block, 11,500 ft. cement curb.....	H. B. Beckhurt, Clk. Bd. Pub. Wks.
New Jersey.....	Fort Hancock.....	June 1.....	Repairing macadam roads.....	Lt. Wm. Paterson, Quartermaster.
California.....	San Jose.....	June 4, 11 A.M.....	Improving roadbed of Monterey road.....	F. E. Mitchell, Chm. Co. Superv.
Indiana.....	Jasper.....	June 8.....	Constructing road 2 miles long.....	M. A. Sweeney, County Auditor.
Water Supply				
Illinois.....	Chicago.....	May 9, 10:15 A.M.....	Laying water supply pipes, 7 contracts; water service pipes, 22 contracts.....	John A. May, Sec'y Bd. Local Im.
Saskatchewan.....	Battleford.....	May 10, 5 P.M.....	Constructing waterworks, force main, distribution system, intake; 60,000-gal. tank, pump, return tubular boiler, electric-light system.....	Galt & Smith, Toronto, Con. Eng'rs.
Virginia.....	Richmond.....	May 13, noon.....	Drilling artesian well at penitentiary.....	E. F. Morgan, Superintendent.
New York.....	Waterville.....	May 13, 7 P.M.....	Constructing 25,000,000-gal. reservoir, and pipe line, con. with water system.....	Earl Conger, Clk. Water Com'rs.
Iowa.....	Perry.....	May 13, 8 P.M.....	Laying 5,700 ft. 4 in. and 2,600 ft. 2 in. mains	Adrian Cross, City Clerk.

South Carolina.....	Hartsville.....	May 15, noon.....	Water system, inc. artesian well, steam and electric pumps, rein. conc., reservoir, steel tank and tower, 3 miles c. i. 6-10 in. mains.	J. J. Lawton, Chm. Bd. Pub. Wks.
Connecticut.....	New Britain.....	May 15.....	Building intake at Burlington; cost, \$300,000	P. M. Blake, Newtonville, Mass.
Texas.....	Galveston.....	May 16, noon.....	Taking out and replacing 30 strainers.....	C. G. Wells, City Engineer.

Water Supply—Continued

District of Columbia..	Washington.....	May 16, 3 P.M.....	Restoring duplicate gas and water supply mains in sub-basement trenches, Treasury Department.....	James Knox Taylor, Superv. Arch.
Manitoba.....	Brandon.....	May 17, 4 P.M.....	Supplying 85 tons 6 and 8-in. c. i. pipe and specials.....	W. H. Shillinglaw, City Engineer.
Virginia.....	Arlington.....	May 20.....	Installing fire system, National cemetery.....	E. G. Mitchell, Supt. Construction.
Ohio.....	Cincinnati.....	May 27, 2 P.M.....	Constructing 2 cisterns, well, office and 4 other bldgs., Lock 12, Kentucky River, Ky.	J. G. Warren, Maj. Eng'rs, U. S. A.
Texas.....	Fort Bliss.....	June 3, noon.....	Sinking 12-in. tubular well; installing pump; 150,000-gal. steel tank on 70-ft. trestle, two 40-h. p. boilers.....	Constructing Quartermaster.
New Jersey.....	Burlington.....	June 5, 3 P.M.....	Constructing mechanical filter plant, capacity 3,000,000 gals. per day.....	George A. Allinson, Superintendent.
West Virginia.....	Romney.....	June 19.....	Constructing new water and sewer systems, School for Blind, inc. 100-gal. wooden tank on steel trestle, cost, \$13,000.....	William Straus, Clerk of Board.

Sewerage

Illinois.....	Chicago.....	May 9, 10:15 A.M.....	Constructing tile-pipe sewers, 6 contracts; brick sewer, 1 contract; drains, 17 contracts.	John A. May, Sec'y Bd. Local Imp. 11
Pennsylvania.....	McKeesport.....	May 9, 4 P.M.....	Constructing 15-24-26-in. terra cotta sewers.....	C. E. Soles, City Comptroller.
Colorado.....	Lamar.....	May 9, 8 P.M.....	Constructing sanitary sewer system, requiring 66,805 ft. 8, 12, 15, 18 and 21-in. vit. pipe sewer.....	C. W. Heaton, Town Clerk.
Ohio.....	Cincinnati.....	May 9.....	Building sewers and drains in Edwards road.....	M. J. Keefe, Clk. Bd. Pub. Serv.
Saskatchewan.....	Battleford.....	May 10, 5 P.M.....	Constructing sewer system, etc.....	Galt & Smith, Toronto, Con. Eng'rs.
Ohio.....	Mt. Vernon.....	May 10.....	Laying 800-ft. 30-in. sewer, etc., Madison St.; also 660 ft. 10-in. and 375 ft. 6-in. vit. pipe E. Gambier St.; catch basins, manholes, etc.	E. M. Parmenter, Clk. Bd. Pub. Serv.
Wisconsin.....	Madison.....	May 10.....	Three miles 6 to 10-in. sanitary sewers; cost, \$15,000.....	John F. Icke, City Engineer
Ohio.....	Kent.....	May 11, noon.....	Constructing sanitary sewer, Park Ave.....	T. A. McMahon, Clk. Bd. Pub. Serv.
Ohio.....	Newark.....	May 11.....	Laying 10-in. tile sewer, N. Tenth St.....	L. B. Munch, Clk., Bd. Pub. Serv.
Oklahoma.....	Lawton.....	May 11.....	Laying brick and pipe sewers, etc.; cost, \$260,000.....	John D. Kennard, Engineer.
District of Columbia..	Washington.....	May 13, noon.....	Constructing sewer.....	H. B. F. MacFarland, Commissioner.
Pennsylvania.....	Scottsdale.....	May 14, 10 A.M.....	Constructing 2½ miles 8 to 36-in. sewers.....	J. B. Hogg, Connellsville, Engineer.
Maryland.....	Baltimore.....	May 15, 11 A.M.....	Constructing storm water drains: cont. 2 & 3.	Benj. T. Fendall, City Engineer.
South Carolina.....	Hartsville.....	May 15, noon.....	Laying 3½ miles 8-18 ins. sewer, 6-20 ft. deep.	J. J. Lawton, Chm. Bd. Pub. Wks.
District of Columbia..	Washington.....	May 15, 2 P.M.....	Furnishing vit. sewer invert. blocks, red sewer brick, terra cotta pipe, castings, etc.....	H. B. F. MacFarland, Commissioner.
Ohio.....	Groveport.....	May 15.....	Furnishing labor for sewerage Joppy ditch.....	B. L. Pier, Village Clerk.
Wisconsin.....	Fond du Lac.....	May 16, 2 P.M.....	Sanitary sewers, 2 sts.; storm sewer, 1 st.	City Clerk.
Texas.....	Waco.....	May 16.....	Constructing 15 miles central sewer extension.....	R. B. Dickey, City Secretary.
Ohio.....	Cincinnati.....	May 17, noon.....	Constructing sewers in 3 streets.....	M. J. Keefe, Clk., Bd. Pub. Serv.
Massachusetts.....	Boston.....	May 17, 2:30 P.M.....	Constructing earth and tunnel, part Section 82; also trench part, High level sewer.....	Metropolitan Water and Sewer Bd.
Michigan.....	Milan.....	May 17, 6 P.M.....	Completing Dexter St. sewer.....	W. P. Gregory, Clerk, Council.
Wisconsin.....	Oshkosh.....	May 18, noon.....	Constructing sewer in two streets.....	W. A. Marden, Chm. Bd. Pub. Wks.
Ohio.....	Barberton.....	May 20, noon.....	Imp. main and local storm sewer, Dist. 1.....	George Davis, Village Clerk.
Arkansas.....	Hot Springs.....	May 20, 2 P.M.....	Constructing sewer.....	G. M. French, Eng'r Imp. Dist. 24.
Michigan.....	St. Joseph.....	May 28, 3 P.M.....	Constructing trunk sewers.....	Harry L. Murphy, City Clerk.
Virginia.....	Norfolk.....	May 30, noon.....	Constructing portion sewer system 7th Ward.	W. T. Brooke, City Engineer.
Manitoba.....	Winnipeg.....	May 30.....	Supplying sewer pipes and junctions.....	H. N. Ruttan, City Engineer.
Virginia.....	Fort Monroe.....	June 1, noon.....	Constructing sewer outlet.....	Capt. R. H. C. Kelton, Quartermaster
Missouri.....	Cape Girardeau.....	June 3, 8 P.M.....	Constructing complete system of sewers, Dist. No. 1, inc. 12 miles 8-22-in. pipe sewers.....	Granbery Jackson, Nashville, Tenn.
Louisiana.....	Alexandria.....	June 4, 7 P.M.....	Furnishing and laying 6 miles 8, 10 and 12-in. sewer pipe and accessories.....	Ira W. Sylvester, City Engineer.

Public Buildings

Massachusetts.....	Salem.....	May 9.....	Erecting 2-story fire-proof granite bldg. for Registry of Deeds; cost, \$300,000; equipment, \$100,000.....	Clarence Blackall, Boston, Arch.
Kentucky.....	Louisville.....	May 10, noon.....	Erecting school building.....	D. X. Murphy & Bro., Archs.
Georgia.....	Atlanta.....	May 10, 2 P.M.....	Building two new grammar schools.....	Board of Education.
Missouri.....	St. Joseph.....	May 10, 5 P.M.....	Erecting new schools, additions, etc.....	E. J. Eckel, Architect.
North Dakota.....	Lidgerwood.....	May 10.....	Erecting \$12,000 school.....	Wm. Elliott & Son, St. Paul, Archs.
California.....	Santa Rosa.....	May 11.....	Erecting \$205,000 Court House.....	Board of Supervisors.
Wisconsin.....	Oshkosh.....	May 11.....	Erecting addition to Read school.....	W. A. Marden, Chm. Bd. Pub. Wks.
New York.....	New York.....	May 13, 10:30 A.M.....	Additions, etc., house Engine Co. 60, Bronx.....	Francis J. Lantry, Fire Commissioner.
Iowa.....	Davenport.....	May 13, 2 P.M.....	Erecting new hose house, Rockingham road.....	Hugo Moeller, City Clerk.
Pennsylvania.....	Philadelphia.....	May 13, 3 P.M.....	Installing high-pressure steam boiler plant and accessories, U. S. Court House and P. O.	J. K. Taylor, Washington, D. C.
Ohio.....	Mt. Vernon.....	May 14.....	Erecting administration building, power house, etc., State Sanatorium; cost, \$175,000	Frank L. Packard, Columbus, Arch.
Minnesota.....	Crookston.....	May 14.....	Remodeling and repairing City Hall.....	B. D. Keck, Arch.
Colorado.....	Denver.....	May 15, 3 P.M.....	Extension, etc., Federal Building.....	J. K. Taylor, Washington, D. C.
California.....	San Jose.....	May 15.....	Building \$175,000 school, four to cost \$50,000 and one to cost \$20,000.....	F. S. Allen, Pasadena, Architect.
Missouri.....	Maryville.....	May 15.....	Erecting main bldg. Normal School; cost, \$225,000.....	Geo. P. Stoptaugh, Elmo, Sec'y Board of Regents.
Alabama.....	Tuscaloosa.....	May 15.....	Erecting \$70,000 or \$75,000 Court House.....	W. E. Spink, Birmingham, Architect
Georgia.....	Fort Screven.....	May 15.....	Erecting several buildings.....	Col. Dan C. Kingman, Corps Eng'rs.
Montana.....	Lewistown.....	May 15.....	Erecting \$100,000 fire-proof Court House.....	Julius Petersen, Chm., Co. Com'rs.
Wisconsin.....	Hancock.....	May 15.....	Erecting high school; also ventilating, etc.....	C. H. Williams, Portage, Arch.
North Dakota.....	Ellendale.....	May 15.....	Erecting dormitory bldg., Industrial School.....	E. F. Bodle, Pres. Bd. Trus.
New York.....	West Point.....	May 15.....	Bldg. and plumbing material, gas fittings, etc.	Quartermaster.
South Carolina.....	Georgetown.....	May 15.....	Erecting \$10,000 fireproof annex to Court House.....	Hugh W. Fraser, Sec'y Com'n.
Louisiana.....	Lake Prondence.....	May 15.....	Erecting \$30,000 high school.....	Gibbs & Sanders, Little Rock, Archs.
Indiana.....	Fort Benj. Harrison.....	May 15.....	Constructing two buildings.....	Geo. H. Penrose, Quartermaster.
Minnesota.....	Staples.....	May 16.....	Erecting 2-story 60 x 80 ft. 8-room school, \$24,000.....	Wm. Elliott & Son, St. Paul, Archs.
North Carolina.....	Newbern.....	May 16.....	Erecting County jail.....	C. E. Foy, Chm. Co. Com'rs.
Missouri.....	Maryville.....	May 16.....	Erecting State Normal School.....	Geo. P. Stoptaugh, Elmo, Sec. Bd. R.
Illinois.....	Springfield.....	May 20, 3 P.M.....	Erecting Supreme Court bldg.; 5 contracts.....	W. Carby Zimmerman, Chicago, Archs.
Minnesota.....	Warren.....	May 21.....	Erecting a jail and Sheriff's residence.....	Board County Commissioners.
Louisiana.....	Fort St. Philip.....	May 23, noon.....	Erecting post exchange and bowling alley.....	Capt. B. T. Clayton, Quartermaster.
Ohio.....	Cincinnati.....	May 24.....	Finishing Soldiers' and Sailors' Mem. bldg.....	Sam'l Hannaford & Sons, Archs.
New York.....	Brooklyn.....	May 28.....	Extension to U. S. Post Office, complete.....	J. K. Taylor, Washington, D. C.
Wyoming.....	Shoshone.....	May 28, 2 P.M.....	Erecting brick dormitory and brick school.....	Superintendent, Indian School.
Washington.....	Tacoma.....	May 30.....	Erecting 2-story fire engine house.....	Owen Woods, Com'r Public Works.
South Dakota.....	Pierre.....	June 4.....	Constructing Capitol bldg.; cost \$600,000.....	Reil & Detweiler, Northwestern Bldg. Minneapolis, Minn. Archs.
Ohio.....	Columbus.....	June 14.....	Erecting women's dormitory, State Univ.....	Carl E. Steeb, Sec'y Bd. Trus.

Bridges

Wisconsin.....	Milwaukee.....	May 10, 10:30 A.M.....	Erecting bascule bridge over canal as section of First and Sixth Ave. viaduct.....	Paul Bechtner, Comptroller.
Ohio.....	Columbus.....	May 10.....	Building Leonard Ave. viaduct, etc.....	W. C. Cussins, Co. Auditor.
Indiana.....	Terre Haute.....	May 11.....	Building 35-ft. span concrete steel arch.....	County Commissioners.
New York.....	New York.....	May 13, 2 P.M.....	Erecting steel and masonry approach, Blackwell's Island bridge, Manhattan Borough.....	James W. Stevenson, Com'r Bridges.
Ohio.....	Lorain.....	May, 13.....	Erecting Ashenbach culvert.....	Chas. Chandler, Clk. Co. Com'rs.
Ohio.....	Bryan.....	May 14, 10 A.M.....	Building 3 bridges: 14 x 50 ft., cost, \$1,203.13; 16 x 28 ft., \$1,281.57; 14 x 34 ft., \$1,379.88.	Jeremiah Clay, County Com'r.
Indiana.....	Michigan City.....	May 15, 10 A.M.....	Repairing Second St. bridge, over harbor.....	Charles H. Miller, Co. Auditor.
District of Columbia.....	Washington.....	May 15, 2 P.M.....	Furnishing metal work for two 60-ft. span steel bridges, f. o. b. cars, at mfrs. shipping point.....	J. R. Garfield, Sec'y U. S. Recl. Serv.
Ontario.....	Buckhorn.....	May 15, 6 P.M.....	Building concrete dam and highway bridge.....	L. K. Jones, Sec'y Dept. Rys. & Cons.
Arizona.....	Tombstone.....	May 15.....	Building arch concrete culvert; also bridge.....	H. E. Berner, Clerk Co. Supervisors.
New York.....	Canandaigua.....	May 20, 9 A.M.....	Erecting concrete arch, 120 ft. long, 10-ft. span filling over same; removing old bridge.....	Philip T. O'Keefe, Town Clerk.
Virginia.....	Emporia.....	May 20.....	Replacing bridge with 180-ft. steel span.....	E. Peyton Turner, Clk. Bd. Superv.
Indiana.....	South Bend.....	May 20.....	Concrete box culvert 16 x 80 ft.....	A. J. Hammond, Engineer.
Missouri.....	St. Louis.....	May 21, noon.....	Removing superstructure and erecting new steel one 18th St. bridge; also laying concrete and wood block pavement on same.....	A. J. O'Reilly, Pres. B. P. I.
South Dakota.....	Castlewood.....	May 21, 2 P.M.....	Erecting 5 steel bridges: 60, 50, 40, 20, and 16 ft. on steel piles, with wing walls.....	Wm. Marshall, County Auditor.
Ohio.....	Upper Sandusky.....	May 24, 1 P.M.....	Building 3 steel spans, 16-ft. roadways; 125 ft. 6 in., 131 ft. 6 in., 78 ft. 6 in.; also repairing, etc., 4 stone abutments.....	J. N. Traxler, County Auditor.
Ohio.....	Cleveland.....	May 25, 11 A.M.....	Erecting 4 concrete steel bridges.....	A. B. Lea, County Surveyor.
Ohio.....	Chillicothe.....	May 27, noon.....	Constructing 3 medium steel superstructures and rebuilding abutment to bridge.....	Charles H. Pinto, County Auditor.
Florida.....	Pensacola.....	June 4, 7:30 P.M.....	Bldg. steel bridge across Little Bayou.....	A. M. McMillan, Clk. Co. Com'rs.

Miscellaneous

Wisconsin.....	Reedsville.....	May 9, 7:30 P.M.....	45 k. w. d. c. generator and switchboard, 31,548 ft. copper wire, 10 arc lamps, two 30 h. p. producer gas engines, 60 h. p. suction gas producer, 300-gal. triplex pump, 2 miles pole line, etc.....	W. G. Kirchoffer, Madison, Con. Eng.
Massachusetts.....	Springfield.....	May 9.....	Hardware and electric-light fixtures for school.....	A. F. N. Pillsbury, Chm. Prop. Con.
Saskatchewan.....	Battleford.....	May 10, 5 P.M.....	Constructing electric-light system, etc.....	Galt & Smith, Toronto, Con. Eng'rs.
Montana.....	Winnipeg.....	May 10.....	Supplying 15,000 to 30,000 bbls. cement.....	M. Peterson, Sec'y Bd. Control.
Illinois.....	Chicago.....	May 11, 11 A.M.....	Furnishing 33 sprinkling wagons; also 210 garbage wagons and tank racks.....	John J. Hanberg, Com'r Pub. Wks.
Connecticut.....	Hartford.....	May 13, 11 A.M.....	Furnishing 4-cylinder motor gasoline patrol wagon, complete, speed 8-30 miles.....	Charles E. Parker, Bd. Con. & Supply
New York.....	New York.....	May 13, noon.....	Dredging 150,000 cu. yds. East & Harlem Riv.	J. A. Benschel, Com'r of Docks.
New York.....	New York.....	May 13, noon.....	Furnishing 10,000 bbls. Portland cement.....	J. A. Benschel, Com'r of Docks.
Iowa.....	Des Moines.....	May 14, 11 A.M.....	Lighting parks with 60 c. p. naphtha incandescent lamps for 5 months from May 15.....	W. W. Wise, Chm. Bd. Pub. Wks.
Illinois.....	Chicago.....	May 14, 11 A.M.....	Furnishing f. o. b. cars Chicago 30,000 No. 1 granite blocks, 4,000 lin. ft. granite flag.....	John J. Hanberg, Com'r Pub. Wks.
New York.....	New York.....	May 14, noon.....	Building Route No. 9 of subway, 4 tracks.....	Rapid Transit Commissioners.
Louisiana.....	New Orleans.....	May 14.....	Constructing St. Andrew St. Wharf.....	Hugh McCloskey, Pres. Port Com'rs.
New York.....	Buffalo.....	May 18.....	Bldg. stone concrete superstructure, breakwater.....	Col. H. M. Adams, Eng'r Corps, U. S. A.
California.....	Los Angeles.....	May 20, 2 P.M.....	Constructing boilers, engines, generators and motors for 1,250-h.p. to Aqueduct Cement Works.....	Horace B. Ferris, Sec'y Bd. Pub. Works.
Iowa.....	Burlington.....	May 20, 4 P.M.....	Sale and removal of stone crusher plant.....	J. P. Winters, City Engineer.
Massachusetts.....	Watertown.....	May 20.....	Furnishing iron, steel, lumber, etc., for year.....	Col. F. E. Hobbs, Commandant.
New York.....	Tompkinsville.....	May 21, 1 P.M.....	Iron, steel and mis. engineering supplies.....	Chas. L. Potter, Maj. Eng'rs.
Massachusetts.....	Boston.....	May 22, 1 P.M.....	Furnishing 12,000 white marble headstones.....	Capt. George L. Goodale, Q. M.
British Columbia.....	Vancouver.....	May 23.....	Two automobile chemical engines and two automobile hose wagons.....	Wm. McQueen, City Clerk.
District of Columbia.....	Washington.....	May 24, 2 P.M.....	Lighting fixtures for two laboratory buildings U. S. Dept. of Agriculture.....	B. T. Galloway, Chm. Bldg. Com.
Ohio.....	Cincinnati.....	May 24.....	Concrete protection wall, Co. fair grounds.....	Fred Dreih, Clk. Co. Com'rs.
Illinois.....	Chicago.....	May 29, noon.....	Generators, transformers, etc., Sanitary Dist.	L. J. Bryan, Clk., Am. Tr. Bldg.
Illinois.....	Chicago.....	May 29.....	Installing electrical apparatus in Western Ave. transformer sub-station.....	E. B. Ellicott, City Electrician.
New York.....	New York.....	June 1, 11 A.M.....	Two-motor generator sets, etc., Navy Yard.....	Commanding Officer.
New Hampshire.....	Portsmouth.....	June 1, 11 A.M.....	Furnishing economizers, fans, engines, flues, etc., for power plant at Navy Yard.....	Bureau Yds & Docks, Washington, D. C.
New York.....	Fort Wood.....	June 1.....	Electric light fixtures in post.....	G. C. Burnell, Constr. Q. M.
Illinois.....	Chicago.....	June 5, noon.....	Excavating and building docks.....	R. R. McCormick, Pres. San'ty Dist.
Indiana.....	Fort Wayne.....	June 12.....	Building \$160,000 electric-light plant; two 300 kw. turbine units or 3 250 kw. engine, type a. c. generators; 420 arc lamps.....	Owen Ford, St. Louis, Mo., Eng'r.
Georgia.....	Elberton.....	July 15.....	Constructing electric power plant, operated by steam, 108 kw. alternator and exciter, 150 h.p. engine.....	G. W. Hubbard, Superintendent.

STREET IMPROVEMENTS

Alberton, Ga.—The citizens have voted \$20,000 bonds for paving purposes.

Atlanta, Ga.—The County Commissioners have made an appropriation to aid in paving certain streets.

Decatur, Ill.—Council is preparing to improve certain streets with paving with brick and constructing cement walks in certain localities.

Evansville, Ind.—Estimates are being prepared for street paving, at a cost of \$22,000.

Hammond, Ind.—The City Engineer has been directed to prepare plans for paving certain portions of Plum avenue with brick.

Indianapolis, Ind.—Bids will soon be asked by the Board of Public Works for constructing asphalt, block and brick pavements, cement walks and sewers.—Blaine H. Miller, City Engineer.

Terre Haute, Ind.—The Board of Public Works has decided to pave North Thirteenth street with brick on a concrete foundation.

Hutchinson, Kan.—Council has granted permit for paving North Main street with bitulithic pavement.

Topeka, Kan.—Council has voted to pave Central avenue.

Central City, Ky.—The people have voted in favor of a \$17,500 bond issue for paving and sewerage purposes.

Bay City, Mich.—Council has ordered the construction of pavement in Woodside avenue and Engineer Wilhelm is preparing plans; the street railway company will order steel rails and ties and rebuild its roadbed.

Traverse City, Mich.—Council has under consideration an expenditure of \$25,000 for improving streets and extension of water mains.

Traverse City, Mich.—The Board of Public Works recommends the paving of Division street with brick on concrete foundation.

Onelda, N. Y.—Bids will be received, May 8, for the purchase of \$44,000 sewer and paving bonds.—T. A. Dapson, City Clerk.

Carthage, N. C.—An election will be held, May 28, to vote on the question of issuing \$200,000 5 per cent. Moore County road bonds.

High Point, N. C.—The citizens have voted \$75,000 street improvement bonds.

Ashland, O.—Bank street is to be paved as soon as the necessary funds are available.

Athens, O.—The paving of North Congress, Palmer, Mill, Franklin avenue, West Mulberry, North and South Cemetery. High and Lancaster streets is to be commenced within a few weeks. Dan Mills has the contract for several streets and City Engineer Biddison states that contracts for others will soon be awarded.

Bellefontaine, O.—The City Engineer estimates the cost of paving Clark street from Columbus to Stanton with brick, at \$12,000; this is for a street 18 feet wide; South Detroit street will also likely be paved.

Caldwell, O.—The bond issue of \$11,000 for paving in this town has been authorized; it is likely brick will be the material used.

Cincinnati, O.—Bids will be received, May 20, for the purchase of \$25,000 street improvement bonds; interest, 3.65 per cent.—W. C. Culkins, City Auditor.

Cleveland Heights, O.—Council has passed ordinance to pave and curb half a dozen streets.

Collinwood, O.—Council has ordered the paving of Delaware street.

Coshocton, O.—Downs & Campbell have sublet the contract for paving Walnut street to Thomas Norman, of West Lafayette.

Crooksville, O.—Plans and specifications for paving three streets are being prepared by John Avery, County Engineer.

East Liverpool, O.—The Board of Township Trustees has taken favorable action of petition to pave Lisbon road, to cost \$22,000.—J. H. Harris, Chairman of Board.

Follansbee, O.—Councilman H. G. Herbert has introduced resolutions that Council employ an engineer to furnish the grade for paving a large number of sidewalks.

Lancaster, O.—Engineer Wolf is preparing plans for paving Locust street and for laying sidewalks on a large number of streets and avenues.

Lima, O.—Murray & Jameson have been awarded the contract for paving Richie avenue; West street is to be paved by the Andrews Asphalt Paving Company; bids for paving Elizabeth street have been rejected and will be readvertised.

Lorain, O.—Faragher & Randall have the contract to build the Penfield sewer, at \$31,458.

Middletown, O.—The Engineer is preparing plans for the paving of Soard street with vitrified brick; plans for the construction of two or three sewers are also in preparation.

Mt. Vernon, O.—Council has decided that the pavement on East High street will be 44 feet wide; the city's share of the cost of this improvement will amount to \$17,000; the contract for paving East Burgess street with brick has been let to C. E. Wilson.

Norwalk, O.—Council will recommend the paving of Woodlawn avenue with brick to a width of 20 feet; this will be one of the longest stretches of pavement in the city.

Plymouth, O.—Bids will be received, May 21, for \$15,000 road improvement bonds.—Albert Kirkpatrick, Town Clerk.

Somerset, O.—Council has decided to macadamize the Public Square and to replace the old brick pavement in front of the music hall with concrete and to construct a concrete curb around the entire Square; plans for this improvement are to be immediately prepared and bids invited.

Toledo, O.—Ordinances have passed for paving half a dozen streets; Bids will be received, May 15, for the purchase of \$106,000 4 per cent. general street improvement bonds.—R. G. Bacon, City Auditor.

Pendleton, Ore.—Council is preparing to macadamize about 40 blocks of streets.

Portland, Ore.—The improvement of Fourth, Seventh, Eighth, Ninth and Tenth streets will be ordered, crushed rock being used; other street improvements are contemplated.

Altoona, Pa.—Council is arranging to advertise for bids for construction of about ten miles of paving, contracts for which will be awarded some time in June; the most important thoroughfares are Sixth, Seventh and Eighth avenues from where the present paving stops to the southern city limits, although thoroughfares in all sections of the city will be improved, but principally on the East Side.

Scranton, Pa.—The city has made application for right to drain the new Twelfth District sewer into the Lackawanna river; the request will probably be granted by the State Board of Health.

York, Pa.—The City Clerk offers for sale \$15,000 5 per cent. 20-year street improvement bonds.

Huntington, Tenn.—An election will be held in Carroll County, May 25, to decide the question of issuing \$10,000 road improvement bonds.

Knoxville, Tenn.—Four new improvement districts have been created by Council and bids for paving will soon be called for; District No. 19 includes Asylum avenue from the Southern Railway to the corporation line; No. 20, Hill avenue from the east approach of the Hill avenue bridge to Swan street; No. 21, Oak avenue from the Oak avenue bridge to Deaderick avenue; No. 22, Locust street from Church to Union avenues, and Union avenue from Locust to Walnut street.

Union, W. Va.—Cabell County has voted in favor of a \$240,000 bond issue for macadamizing a number of roads and for building a bridge across Wuyan river; plans for the paving will be prepared and the contracts let at once.

North Yakima, Wash.—The city is planning to expend \$300,000 on paving streets.

Marshfield, Wis.—Council has under consideration the improving of several streets by paving.

Brandon, Man.—Bids are being received by the City Council for furnishing 12-ton steam roller.—W. H. Shillinglaw, City Engineer.

SEWERAGE

Little Rock, Ark.—The citizens of the Western District are organizing a sewer system to drain that section of the city; L. N. Whitcomb is at the head of the movement.

Newport, Ark.—An improvement district has been formed and a sewer system is being considered.—W. A. Billingsly, Chairman.

Selma, Cal.—The Chamber of Commerce advocates a bond issue of \$30,000 for a sewer system.

Truckee, Cal.—A sewer system is being considered.—Edward Uren, Nevada City, Consulting Engineer.

Willows, Cal.—Plans are being prepared for the sewer system, estimated to cost \$25,000.

West Hartford, Conn.—Trout Brook sewer will probably be constructed this year.—A. B. Anderson, Town Engineer.

Wilmington, Del.—The City Clerk has been directed to advertise for bids for the purchase of \$250,000 sewer bonds.

Peoria, Ill.—Final estimates and reports for the North Side sewer system are now ready; estimated cost of improvement, \$233,000.

Muskogee, I. T.—Council has decided to issue \$200,000 bonds for sewer and water improvements.

Caney, Kan.—Plans have been prepared for a sewage system; cost, \$50,000.—M. A. Earl, Consulting Engineer.

Bellevue, Ky.—The extension of sewers on Taylor avenue to connect with lateral sewer to Lafayette avenue have been authorized.

Central City, Ky.—Bonds, \$17,000, have been voted for sewer purposes.

Lexington, Ky.—An ordinance has been passed providing for the construction of sanitary sewers on several streets.—J. E. Cassidy, Clerk.

Hoopeston, Ill.—Plans and profile have been prepared for proposed sewer system for the city.

Lagrange, Ill.—A sewer will be built of reinforced-concrete, at a cost of \$115,000.

Hartford, Mich.—The village is planning to construct a sewerage system.—G. W. Merlman, Chairman.

Houghton, Mich.—Council will bond the city in the sum of \$50,000 for constructing a sewer system in West Houghton.

Greenville, Miss.—Council has decided to issue \$20,000 bonds for building the drainage system.

Passaic, N. J.—Council proposes to lay a sanitary sewer in Fourth street and to curb and gutter Van Houten avenue; a number of other street improvements are also contemplated.

Cambridge, O.—Council has decided to issue \$10,000 additional sewer bonds.

Celina, O.—The estimates of Engineer Lutz on the proposed Cherry street sewer have been presented to Council and will probably be accepted.

Columbus, O.—The matter of a sewerage system for the village of Greenville will come up at the June meeting of the State Board of Health; the Board has approved plans for a sewage disposal plant at Eaton.—Dr. C. P. Probst, Secretary.

Dayton, O.—The town will issue \$66,000 bonds for the construction of sewers.

Hamilton, O.—Plans, specifications and estimates of the cost of constructing storm sewers in District No. 1 have passed Council; bids will soon be invited.—Homer Grad, Clerk.

Niles, O.—The State Board of Health has approved the plans for a storm water sewer in the village.

Sandusky, O.—Bids will be received, May 15, for \$26,000 Scott and Fifth avenue 4 per cent. semi-annual sewer bonds.—Alex. M. Wagner, City Auditor.

Steubenville, O.—Chas. F. Neville has the contract for paving McLister avenue and for concrete walls and for the construction of a sewer in Murdock street.

Altoona, Pa.—The Board of Public Works is arranging to advertise for bids for the construction of a sewer system for the Eleventh Ward, known as Fairview.

Canonsburg, Pa.—The property owners of South Canonsburg are taking up the matter of constructing a sanitary sewer system; the question of finding an outlet for the main sewer is the principal engineering difficulty which confronts them.

Meadville, Pa.—It is estimated that the diverting of the storm water now emptying into the channel above Center street into French creek by the construction of a 5-foot reinforced-concrete sewer, will cost \$14,000; Council will take up the matter of this improvement at once.—C. E. Douglass, City Engineer.

Sharon, Pa.—Bids recently opened for sewer construction have been rejected by reason of the fact that the legislation was not properly passed; new bids will be invited.

WATER SUPPLY

Pensacola, Fla.—Council is preparing to purchase water mains of the Pensacola Water Company; if the plant is purchased extensive improvements will be made.

Comanche, I. T.—The citizens have voted \$25,000 water bonds.

Muskogee, I. T.—Council has decided to issue \$200,000 bonds for waterworks and sewer improvements.

Bonner Springs, Kan.—Council is arranging and will soon let contracts for water system.—Filo M. Clark, Mayor.

Frankfort, Kan.—Brown & McDonald, of Kansas City, have prepared plans for water system to be constructed in this city.

Dawson, Minn.—Council has offered for sale \$16,000 in bonds for building water supply.—Chas. O. Holman, Clerk.

Henderson, Minn.—Bids will be received, May 13, for the purchase of \$10,000 10-year waterworks bonds.—F. C. Weber, City Clerk.

Savannah, Mo.—The citizens have voted \$35,000 bonds for water system.

Trenton, N. J.—The Board of Water Commissioners will advertise for bids for standpipe of steel with a capacity of 1,500,000 gallons; there will be installed in connection with the standpipe a pumping plant, consisting of a duplicate gas engine.

Ashland, O.—The \$45,000 bond issue for the improvement of the waterworks system will be submitted to the voters, June 10.

Dayton, O.—Council has authorized the expenditure of \$14,000 for the purchase of new boilers.

Jefferson, O.—Bids will be opened, May 27, for \$40,000 4 per cent. semi-annual bonds for constructing a waterworks system.—B. L. Crosby, Auditor, Ashtabula County.

Madisonville, O.—Bids will be received, May 15, for \$5,000 4 per cent. semi-annual bonds for waterworks repairs and improvements.—J. A. Conant, City Clerk.

La Grande, Ore.—The city has offered for sale \$160,000 in bonds for water purposes.—R. I. Smoke, City Recorder.

Milwaukee, Ore.—The Oregon Water Power and Railway Company is preparing to build a bridge across Johnson creek to take the place of the present structure.

Hazleton, Pa.—The Diamond Water Company will extend water mains to the Vine street cemetery.

Norristown, Pa.—Arrangements are being made to improve water supply at the Hospital for the Insane.

Trezevant, Tenn.—The citizens have organized a private water company for the purpose of establishing a water system; an air-lifting system will be installed.

Colville, Wash.—A sewerage system may be built.—Harry Bonner, City Engineer.

Harrington, Wash.—An election will be held, May 18, to decide the question of issuing \$22,000 bonds for buying water system, now owned by Oliver Dobson.

Rosalia, Wash.—The Rosalie Water Company has been organized with a capital stock of \$15,000, by Rolston McGregg, L. S. Brockway and others; an artificial well will be sunk for securing water supply.

Elmwood, Wis.—Bids will be received, May 15, for the purchase of \$6,000 waterworks bonds.—A. F. Schafer, Village Clerk.

LIGHTING AND ELECTRICITY

Albertsville, Ala.—The Sand Mountain Electric Company has been incorporated with a capital stock of \$50,000.

Holly, Col.—The Holly Sugar Company is considering the construction of an electric-lighting system, with waterworks in connection; estimated cost, \$40,000.

Bridgeport, Conn.—The Rockville Gas and Electric Company has petitioned for power to extend its lines into Stamford Springs, and to issue bonds.

Torrington, Conn.—The Torrington Electric Light Company will install new 60-cycle generators.—C. E. Smith, Manager.

Wilmington, Del.—Plans have been finished for a light and power plant at the Tenth street waterworks pumping station.—Theo Lelsen, Engineer.

Tampa, Fla.—The Tampa Electric Light Company has secured a franchise for an electric-light plant.

Columbus, Ga.—The question of issuing \$100,000 lighting plant bonds is being considered by Council.

Lincoln, Ill.—H. B. Schott, represents the company which has purchased the Lincoln Electric Street Railway Company, and will place in immediate operation a power, heating and lighting plant; the new power house of the company will be much larger and greatly improved over the present.

Ottawa, Ill.—The Ottawa Gas Light and Coke Company will remodel its plant; the entire structure will be remodeled and all modern machinery and equipments will be placed in position; the old building will be torn down, and will be supplanted with a modern structure.

Sheffield, Ill.—The Sheffield Electric Light Company is to have a franchise for an electric-light plant.

Westfield, Ill.—Mayor-elect M. L. Huey and the new members of the City Council are looking around for some one who will install an electric-light plant; it is believed that a plant with a sufficient power to supply the town can be built and equipped for \$12,000; the city expects to use twenty arc lights for the streets.

Lawrence, Kan.—The Lawrence Electric Transportation Company has been incorporated with a capital of \$200,000, by O. W. Murphy, Dr. J. A. Hamlin, W. W. Cleland, and others; the company proposes to equip and operate electric cars for the transportation of passengers and freight in the city of Lawrence and other cities in the State.

Wichita, Kan.—H. Almert, an expert electrical engineer, is in the city for the purpose of reinstalling the electric apparatus of the old Wichita Gas, Electric Light and Power Company, now owned and controlled by J. O. Davidson and others; \$100,000 will be expended in improving the plant.

Trenton, Ky.—The municipal light plant has been damaged by fire.

Houma, La.—An electric-light plant costing \$20,000 will be built in accordance with plans of Charles H. Jenks, C. E.

Mattapoisett, Mass.—The Mattapoisett Selectmen will grant a franchise to the New Bedford Gas and Edison Light Company, granting the right to locate poles on Main street, for the purpose of supplying electricity.

Dawson, Minn.—Bonds, \$12,000, have been authorized for electric plant.—Chas. O. Holton, Recorder.

Minneapolis, Minn.—It is probable that the State Fair management will have a \$25,000 power plant.

Owatonna, Minn.—J. B. Thon, proprietor of the Sandford Steam Laundry on Broadway, is in consultation with several well known engineers preparing plans and specifications for the work of erecting a new independent electric and steam heating plant for the city.

St. Cloud, Minn.—The St. Cloud Electric Power Company will begin work on the St. Augusta dam some time next month; the company was organized about a year ago with J. F. Jacobson, Dr. O. T. Hauger and J. Hogen, of Grand Rapids, Wis., as its promoters.

St. Paul, Minn.—An appropriation has been made to establish a light and power plant at the State Fair grounds.

Brookhaven, Miss.—Bids will be received, June 4, for the purchase of \$15,000 5 per cent. 20-year water and light bonds.

Athens, O.—The City Council has passed an ordinance authorizing the Board of Trustees of Public Affairs to expend \$6,000 in improving the municipal lighting plant.

Newton Falls, O.—The town contemplates the construction of a municipal electric-lighting plant.

Urbana, O.—The Board of Public Service has awarded a contract to the Urbana Light Company for lighting the streets for a term of ten years; the company will furnish 100 lights at \$75 a year.

Warren, O.—The Oil City Fuel and Supply Company, which furnishes Sharon, Pa., with natural gas, filed an application with the County Commissioners for a franchise to lay a 3-inch gas main along the public highway from the Pennsylvania State line to the Petroleum Iron Works Company's plant in Hubbard Township, a distance of several miles.

Lanesboro, Pa.—The Susquehanna County Electric Company will construct a power plant on the James Mill site.

Bowie, Tex.—The Bowie Electric Light Plant has been sold by T. W. Curtis to Wright Brothers & Simpson, of Newport; it is proposed to furnish an all-night service.

Fredericksburg, Va.—Fredericksburg Water Power Company will build three large dams, two on the Rappahannock and one on the Rapidan, to be used for power in generating electricity.

Richmond, Va.—The City Council has authorized the construction of a municipal electric-light plant.

Aberdeen, Wash.—The Grays Harbor Railway and Light Company will build a monster power plant in Sunnyside Addition near the park.

Racine, Wis.—Electric-light experts will be asked to prepare plans for equipping the Belle City Sash and Door Company's plant for local lighting purposes.

Superior, Wis.—The city contemplates building a municipal electric-light and power plant of about 1,000 horsepower capacity; plans and specifications will be completed about May 20.—Victor Linley, Mayor; Owen Ford, Security Building, St. Louis, Mo., Consulting and Supervising Engineer.

Toronto, Ont., Can.—The Toronto Electric Light Company has been authorized to increase its capital from \$3,000,000 to \$4,000,000; improvements will be made.

FIRE EQUIPMENT

Mobile, Ala.—Bids will be received for furnishing labor and material necessary for constructing fire station, at Fort Morgan.—Address Captain L. F. Garroy, Jr., Box 665, Mobile, Ala.

Vacaville, Cal.—The Fire Department is considering the purchase of a chemical engine.

Lewiston, Idaho.—Council will ask for bids for installing forty fire-alarm boxes.

Hogulam, I. T.—The Fire Chief recommends the purchase of chemical engine and combination wagon for East Side.

Valley Falls, Mass.—A disastrous fire occurred in this village; the village is without fire protection; it will be established.

Moberly, Mo.—The city has voted \$15,000 bonds for park purposes.

St. Joseph, Mo.—The Fire Chief recommends the erection of an additional fire station.

Red Bank, N. J.—A new hose house is to be erected for the Union Hose Company.

Portland, Ore.—Council Finance Committee is considering the establishment of a fire-alarm system as recommended by Fire Chief Ruonich.

Wheeling, W. Va.—The Council Committee recommends an appropriation of \$5,000 for the Fire Department for the coming year.

Milwaukee, Wis.—The South Milwaukee Fire Department is to be organized soon.

PUBLIC BUILDINGS

Ashland, Ala.—The citizens have voted \$10,000 school bonds.

Hartwell, Ga.—An election will be held, May 10, to decide the question of issuing \$20,000 5 per cent. school bonds.

Muskogee, I. T.—An issue of \$100,000 bonds has been recommended for a new high school building.

Holton, Kan.—An election will be held, May 25, to decide the question of issuing \$85,000 in bonds for jail and Court House.

Holyoke, Mass.—Plans have been completed and bids are invited for a new city barn, 35x135 feet, three stories and basement, to be of red brick and brownstone trimmings and tar and gravel roof, with thirty stalls, blacksmith shop and store-rooms; address Board of Public Works.—W. B. Reid, Architect.

Menominee, Mich.—The County Board has decided to issue \$20,000 bonds for erecting Agricultural School.

Edina, Mo.—Bids will be received, May 15, for the purchase of \$18,000 4 per cent. school bonds.

Gloucester City, N. J.—An ordinance has been passed authorizing issue of \$55,000 school bonds.

Syracuse, N. Y.—Bids will be received, May 13, 1 p. m., for \$225,000 high school bonds; also for \$65,000 Salina school bonds, bearing 4½ per cent. interest and payable semi-annually.—R. J. Shanahan, City Comptroller.

Elizabeth City, N. C.—The proposition to issue bonds for school purposes carried.

Greensboro, N. C.—Bids will be received, May 15, for the purchase of \$30,000 5 per cent. 30-year school bonds.—T. J. Murphy, Mayor.

Cincinnati, O.—Bids will be received, May 27, for the purchase of \$250,000 school bonds.—S. B. Marvin, President of the Board.

Laurens, S. C.—The citizens have voted \$30,000 bonds for school purposes.

Baird, Tex.—The citizens have voted \$20,000 bonds for school purposes.

Puyallup, Wash.—An election will be held to decide the question of issuing bonds for the erection of high school.

Lacrosse, Wis.—Council is in favor of issuing \$65,000 bonds for building auditorium.

STREET RAILWAYS

Atlanta, Ga.—The Georgia Electric and Railway Company has been chartered with a capital stock of \$10,000; the line will be from three to four miles long.—P. S. Wriggall, T. K. Glenn, W. G. Brine, and others, Incorporators.

Macon, Ga.—The Macon, Americus and Albany Electric Railway Company has formally organized; the surveying has been completed and the work of construction will begin in the near future.—Jos. C. Davis, President; N. J. Cruger, Secretary.

Chicago, Ill.—The Southern Traction Company has reorganized; the work of installing electric machinery in the power house at Blue Island, Morse and Bradley has begun and will also be pushed with the greatest possible speed until completed; other lines will be built to connect with this one farther south and possibly east as far as Lafayette, Ind.; the capital stock was increased from \$2,000,000 to \$5,000,000.—Matthew Slush, Detroit, Mich., President.

Springfield, Ill.—An electric railroad to cross the entire State of Illinois from Terre Haute to Quincy, with a branch from Shelbyville to Venice, in Madison County, is con-

templated in the incorporation of the St. Louis, Terre Haute and Quincy Traction Company; capital stock, \$25,000.—Edward Yates, of Pittsfield; Peter Chase, of Decatur; H. T. Virden, of Virden, Incorporators.

Monroe, La.—Council has advertised for bids for the extension of the city railway.

Owosso, Mich.—An election will be held, May 14, to vote on the question of issuing \$50,000 bonds for park improvements.

Duluth, Minn.—The Duluth Street Railway will extend its line to the Minnesota Steel Company's plant in West Duluth.

Kansas City, Mo.—The Blue Valley Railway Company has been chartered to build an electric line two miles in length.—Alexander Massey and Willard E. Winner, Incorporators.

Lake Placid, N. Y.—A traction company to be known as the Lake Champlain, Lake Placid Traction Company, was incorporated with a capital stock of \$1,500,000, to build an electric railway forty miles long.—Albert L. Washburn, Norman C. Spencer, Wilbur T. Halliday, Incorporators.

Little Valley, N. Y.—The Western New York and Pennsylvania Traction Company has petitioned for franchise for the use of village streets.

Rochester, N. Y.—The Rochester-Corning-Elmira Traction Company has been authorized to issue \$8,000,000 bonds for improvements, etc.

Rochester, N. Y.—The Rochester-Corning-Elmira Traction Company, which was recently authorized by the State Railroad Commission to build an electric road 120 miles long, from Rochester to Elmira, will be given a hearing by the State Commissioners on application for authority to issue a first mortgage for \$8,000,000; the company has filed a certificate of a proposed extension of its line from Danville to Hornell.

Utica, N. Y.—The State Railroad Commission has granted the application of the Utica and Southern Railroad Company for a charter under which it is authorized to construct an electric line from Clinton to Deansboro, and from that point to Waterville and to Hamilton.

Portland, Ore.—Agents of the Portland Railway, Light and Power Company are in the field between Oregon City and Salem, securing right-of-way for an electric transmission line to be constructed to the Capital City; the line will be started soon and is intended to supply light and power in various towns in the intervening territory.

Abilene, Tex.—The Abilene Street Railway Company has been incorporated with a capital stock of \$100,000, by J. M. Wagstaff and others.

Snohomish, Wash.—Construction work will commence on the first fifteen miles of the Snohomish Valley Railroad, the proposed electric line from Snohomish to Seattle and Tacoma; articles of the Snohomish Construction Company were filed with the Secretary of State and the Auditor of Snohomish County; the company has been organized for the express purpose of taking the contract and building the first section of the road.—Edgar Wright, President; J. F. Taylor, Secretary and Treasurer.

Charleston, W. Va.—The Kanawha Valley Traction Company is preparing to extend its lines to St. Albans.

BRIDGES

Bridgeport, Conn.—The State Senate has passed resolution allowing the issue of \$350,000 improvement bonds for the erection of new Congress street bridge and approach and for other purposes; the House will soon take action.

Tampa, Fla.—The Tampa Electric Company will unite with the County in the erection of a steel bridge across Hillsborough river at Michigan avenue, each to bear an equal part of the expense.

Suwanee, Ga.—Gwinette & Forsythe, constructors, will build a new steel bridge across the Chattahoochee river.

Wichita, Kan.—Plans for the concrete bridge across the Arkansas river on Douglas avenue are now being prepared by Geo. H. Bradford; the plans for a steel girder bridge with paved roadway have been prepared by the Commissioners.

St. Charles, Ill.—The viaduct at this place has been destroyed by fire; it will be rebuilt at once.

Ottawa, Ill.—The city and the McKinley Railway Syndicate are considering erection of a bridge over Illinois river at Ottawa, to cost \$80,000.

Shreveport, La.—The city and the Parish of Bossier will erect a \$200,000 bridge at Crockett street.

Benton Harbor, Mich.—St. Joseph has voted to raise \$20,000 as its share in building a new highway bridge, the Council of this city has determined to take steps to do its part in the building of the proposed structure, and will call a special election for bonding purposes just as soon as the two Councils can agree on the size of a highway bridge.—Address Mayor Morrow.

Faribault, Minn.—The Bridge on Fourteenth street over Straight river was examined by the Street Committee of Council and found to be in a poor condition; a new bridge will soon have to be built, at an approximate cost of \$7,000.

St. Louis, Mo.—The Frisco Railway plans and specifications for a new bridge to be erected at Fyler avenue, were approved by the Board of Public Improvement, and the erection of the structure will begin at an early date; the bridge will abolish grade crossings, and will be a great improvement; the President of the Board was authorized to advertise for bids for renovating of the south span of the Eighteenth street bridge over the railway tracks; the old superstructure of the bridge will be removed and rebuilt from the south abutment to the pier next north of it, a distance of 470 feet.

Omaha, Neb.—The County Commissioners are conferring with the Washington County Commissioners regarding a bridge in the vicinity of Bennington, where they will probably erect concrete and iron bridge.

Schenectady, N. Y.—The Schenectady Railway Company is considering the plans of altering the route of the Troy line in the vicinity of a bridge over the Lisha's Kill; some time ago the company had a survey made for the purpose of changing the entire roadbed between this city and Watervliet, with a view of eliminating the many curves and grades that now exist; if the change is made a new bridge will be built and the old one used for the State road.

Akron, O.—Plans and specifications for the proposed iron-concrete bridge over the stream from the feeder at Louis Young's have been submitted to the County Commissioners for their approval Thursday morning; the bridge is to be 140 feet long, 18 feet wide and will cost about \$986.44.

Cleveland, O.—A special election will be held, July 2, to vote on the question of issuing \$700,000 in bonds for building central viaduct.

Grantsville, W. Va.—The Grantsville Bridge Company has been incorporated, with a capital stock of \$20,000, by A. G. Miller, S. T. Stuzzy, Howard Waldo and others.

MISCELLANEOUS

De Funiak Springs, Fla.—Bids will be received May 15 for the purpose of \$33,000 5 per cent. 20-year water, sewer and school bonds.—D. S. Gillis, Town Clerk.

Richton, Miss.—Bids will be received, June 11, for the purchase of \$6,000 5 per cent. 20-year improvement bonds.—G. E. Yarborough, Clerk.

Portsmouth, N. H.—The Boston and Maine Railroad is to build a suspension bridge across the Piscataqua river, to take the place of the old wooden structure now being used.

Marietta, O.—The Board of Trade has appointed a committee to consider the construction of a dyke around the city for protection from floods; it will be ten miles long.

Washington C. H., O.—Bids will be opened, May 20, for \$15,000 4 per cent. semi-annual improvement bonds.—Jas. J. Flynn, City Auditor.

Duquesne, Pa.—The borough has sold \$100,000 bonds, of which \$65,000 will be expended for new streets, \$20,000 for new sewers and \$10,000 for a garbage plant.

Rankin, Pa.—The Council has decided to construct a garbage furnace.

Fairmont, W. Va.—Council will expend \$500 in putting the old crematory into good condition, abandoning the project to construct a new one.

BIDS RECEIVED

Troy, Ala.—C. M. Burkhalter, of Birmingham, has been awarded contract for sewerage work, at \$4,258.90; other bidders were: C. A. Simpson & Co. and J. B. Lynd, Bryan & Co., Jacksonville, Fla.; Mitchell Bros., Montgomery; the General Construction and Contracting Co., Atlanta, Ga.; Pouncey Paving and Construction Co., Helena, Ark.

Washington, D. C.—The Commissioners have settled the dispute over the contract for laying asphalt pavements with vitrified brick gutters and asphalt pavements without the brick gutters by awarding the contract for the streets with brick gutters to the Cranford Paving Company and the contract for streets without the brick gutters to the Brennan Construction Company; the total of the contracts was \$75,000.

East St. Louis, Ill.—J. & P. Keeley were awarded contract for work on Veronica avenue, bids for which were opened April 25, at \$5,351.56, as follows: 10-inch pipe, laid, 40 cents; stone inlets, \$12; cast-iron covers, \$12; brick masonry, \$9; excavation placed in fill, 20 cents; fill, in excess of excavation, 50 cents; granitoid curb and gutter, 90 cents; paving 2,186 square yards with Albion brick, \$1.56; Purington and Clinton were offered at \$1.61, Terre Haute, \$1.71.

The firm was also awarded contract for Third street improvement, at \$2,283.20, as follows: 1,076 feet 20-inch pipe, laid, at \$1.20; 955 feet 18-inch pipe, laid, 85 cents; cast-iron covers, \$12 each; 1,600 yards brick masonry, at \$9.

W. H. Hill was awarded contract for Ninth street improvement, at \$45,830, as follows: 700 feet 12-inch pipe, laid, at 60 cents; 8,770 feet limestone curb, at 70 cents; excavation placed in fill, 35 cents; fill in excess of excavation, 60 cents; 20,700 yards paving with Purington brick, at \$1.63; Albion brick was offered at \$1.64 and Wabash at \$1.65.

Connersville, Ind.—Roy Williams, Kalamazoo, Mich., was awarded contract, April 20, to construct 15,400 feet of brick street, at \$1.48 per square yard; bids were also opened for 57,104 rolled gravel streets and 12,700 square feet cement walk; other bidders were Michael & Minnieh, Marion; Chas. Milhaus, Connersville; J. P. Knight, Greenfield.—Jacob S. Clouds, City Clerk.

Indianapolis, Ind.—Bids were received by the Board of Works for improvements as follows: Parker avenue, from Tenth to Nowland avenue, with graded roadway, curb and cement walks; W. H. Holl, cement walks and curb, \$1.54; W. H. Holl, graded roadway, 89 cents; Henry Pothast, cement walks and curb, \$1.59; Henry Pothast, graded roadway, 91 cents; Pearl street, from Blackford street to a point 209.9 feet west of Blackford street, with brick roadway; Capitol Paving and Construction Company, \$3.27; Claude M. Johnson, \$3.29; American Construction Company, \$3.38; first alley south of Walnut street, from East street to first alley east, with brick roadway; George W. McCray, \$1.04; American Construction Company, \$1.05; Capitol Paving and Construction Company, \$1.24; Sanders street, from Shelby street to Barth avenue, with asphalt roadway, brick gutters, curb; Union Asphalt Construction Company, \$4.12; first alley north of Morris street, from Chadwick street to West street, with brick roadway; Capitol Paving and Construction Company, \$1.44; American Construction Company, \$1.54; first alley west of Yandes street, from Twenty-second street to Indianapolis Union Railway Company tracks, with brick roadway; George W. McCray, \$2.35; the Indianapolis Construction Company, \$2.42; American Construction Company, \$2.50; Capitol Paving and Construction Company, \$2.71; first alley west

of West street, from Washington to Maryland streets, with brick roadway; Capitol Paving and Construction Company, \$1.44; American Construction Company, \$1.50; first alley east of Delaware street, from Michigan to first alley north, with asphalt roadway; Union Asphalt Construction Company, \$1.82; first alley north of Michigan street, from Superior street to Bird street, and from Muskingum street to Kankakee street, with asphalt roadway; Union Asphalt Construction Company, \$2.82; first alley north of Michigan street, from Hudson street to first alley west, with asphalt roadway; Union Asphalt Construction Company, \$2.04; first alley north of Michigan street, from Meridian street to Capitol avenue, except part between Superior and Bird streets, with asphalt roadway; Union Asphalt Construction Company, \$1.53.

Baltimore, Md.—Milton C. Davis has been awarded contract to construct new band stand in Clifton Park, for \$10,201.

The United States Wood Preserving Company has been awarded contract to pave Division street with creosoted wood block for \$3.73 per square yard.

Owen Patterson & Co. have been awarded contract for erecting new reinforced concrete reservoir at Bayview Asylum, for \$9,836.

Salisbury, Md.—B. F. Sweeten & Son, Camden, N. J., have been awarded contract to construct 15,737 square yards 4-inch brick on 4-inch Portland concrete 1:2½:5, with 1½-inch cushion sand joints, at \$2.21 per square yard, cement grout joints, \$2.26, asphalt filler, \$2.36; on bitulithic, 2-inch thickness, 5-inch base, the Atlantic Bitulithic Company, Richmond, Va., bid \$2.74, and the Standard Bitulithic Company, New York City, \$2.55; the bid including all excavation, averaging 10 inches depth; B. F. Sweeten & Son bid 25 cents for resetting 700 feet of old curb and 65 cents for setting 9,583 feet Wainwright reinforced concrete curb, 6x18 inches; and for 1,600 feet 18-inch terra cotta drain, double strength, \$1.10; 1,400 feet 15-inch, 78 cents; 12 manholes, \$40; average depth 7 feet; the Atlantic and Standard Bitulithic companies each bid 25 cents for resetting old curb and 67 and 70 cents respectively for new curb; \$1.75 and \$1.50 for 18-inch, and

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The present flat flame gas light quickly changed to
BEST MODERN LIGHTS.

Lamps giving 10-25 candlepower made to produce 40 to 70 candlepower. No additional gas consumed.

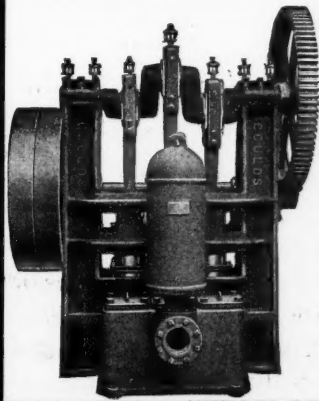
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35 Warren St., N. Y. City

THE OLD FASHIONED CLAY WORKING CO.

Manufacturers of
"CLEANFIELD VITRIFIED PAVING BLOCK"

Vitrified Brick of all kinds

Goulds Efficient Triplex Power Pumps



ARE RAPIDLY SUPERSEDING THE DIRECT-ACTING STEAM PUMP FOR EVERY SERVICE BECAUSE OF THEIR DEMONSTRATED HIGH EFFICIENCY AND REMARKABLY LOW COST OF OPERATION. LET US SEND YOU A CATALOG.

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"LAMBERT" THE PERFECT WATER METER




The Result of 17 Years METER EXPERIENCE.
Fills Every Requirement.

THOMSON METER CO. 79 Washington St.,
BROOKLYN, N. Y.

LOWEST BIDS RECEIVED—WATERWORKS SUPPLIES

FURNISHING AND LAYING WATER MAINS

	Length	Size	Depth of Trench	Price	Remarks
Salt Lake City, Utah	56,000'	6"	\$1.17	Excavating and back-filling not included; bid for same, 56 cts. per cubic yard in first contract; 70 cts. in second.
	6,000'	8"	.....	1.67
	800'	10"	.....	2.27
	800'	12"	.....	2.86
	300'	6" Class E	.....	1.26
	50'	8" " "	.....	1.84
	50'	10" " "	.....	2.55
	792'	12" " "	.....	3.25
	50'	16" " "	.....	4.94
	793'	18" " "	.....	5.85
	793'	24" " "	.....	8.97
	7,930'	30" " "	.....	12.85
	1,835'	36" " "	.....	16.80
	2,072'	36" Class D	.....	15.72
	797'	30" 1 1/2" stave	.....	6.50
West Side, Ia.....	6,235'	30" 2 1/2" " "	7.00	Continuous wood stave pipe.
	1,835'	36" 1 1/2" " "	.....	6.10
	2,072'	36" 2 1/2" " "	.....	6.67
	960'	8" " "	.....	1.22
	835'	6" " "	.....	1.00
	2,670'	4" " "	.....	.70
	1,070'	6" " "	.....	1.50
	4,000'	4" " "	.....	.30 1/2
	5,000'	6" " "	.....	.43 1/2
	2,500'	8" " "	.....	.59 1/2
Kelliher, Minn.....	1,500'	10" " "83 1/2	Wire-wound wooden pipe. Prices for furnishing only. Laying, with 8 to 10 ft. covering over pipe, 75 cts. per foot.
	.....	18" " "	.....	2.00
	

FURNISHING CAST IRON PIPE

Salt Lake City, Utah.	280	6"	.....	18.50
	15	8"	.....	26.00
	2	10"	.....	37.00
	2	12"	.....	46.00
	20	6"	.....	10.20
	1	8"	.....	27.60
	1	10"	.....	38.00
	4	12"	.....	50.00
	4	16"	.....	103.00
	1	18"	.....	301.75
	5	24"	.....	400.40
	1	30"	.....	585.00
	1	36" sluice valve	.....	350.00
	2	4" air valves	.....	40.00
	2	24" pressure regulators	.....	1,490.00

	Number	GATE VALVES Size	Pressure	Weight, Pounds	Price
Cleveland, O.....	.....	3"	.....	60	\$6.83
	250	4"	.....	95	7.65
	200	6"	.....	185	12.60
	25	8"	.....	300	18.90
	20	10"	.....	405	26.25
	20	12"	.....	575	34.50
	5	16"	.....	1,250	66.50
	6	20"	.....	2,175	134.25
	1	24"	.....	2,725	217.50
	1	16"	Extra	1,800	136.60
St. Paul, Minn.....	.....	20"	heavy	2,475	216.60
	.....	4"	.....	.....	8.00
	.....	6"	.....	.....	13.50
	.....	8"	.....	.....	19.00
	.....	12"	.....	.....	37.50
	.....	16"	.....	.....	77.00
	.....	20"	.....	.....	145.00
	.....	24"	.....	.....	195.00
	.....	6"	.....	.....	12.50
	.....	8"	.....	.....	19.00
Minneapolis, Minn.....	.....	12"	.....	.....	35.00
	.....	16"	.....	.....	78.00
	.....	20"	.....	.....	155.00
	.....	24"	With by-pass	.....	225.00
	.....	4"	.....	.....	12.00
West Side, Ia.....	.....	6"	.....	.....	16.00
	.....	8"	.....	.....	22.00
	.....	10"	.....	.....	7.00
Carman, Manitoba.....	.....	6"	150 lbs.	.....	10.92
	.....	8"	150 lbs.	.....	20.00
	.....	10"	150 lbs.	.....	.....

\$1.05 and \$1 for 15-inch drain, and \$45 each for manholes.—T. Chalkley Halton, Consulting Engineer.

Boston, Mass.—Coleman Brothers, Boston, were awarded contract for grading, surfacing and other work, Quincy Shore Reservation, Atlantic street, to National Sailors' Home, Quincy, at \$45,192.50, as follows: 8,000 cubic yards earth grading at 40 cents, 2,000 cubic yards filling material at 60 cents, 800 lineal feet 6-inch vitrified pipe at 30 cents, 600 feet 8-inch pipe and 5,000 feet 10-inch pipe at 40 cents, 4,900 feet 12-inch pipe at 50 cents, 200 feet 15-inch pipe, 75 cents; 750 feet 18-inch pipe, \$1.25; 50 cubic yards concrete masonry, \$8 per yard; 75 catch-basins, 7.5 feet in depth, \$35 each; 40 catch-basins, 2 feet deep, \$15 each; 1,000 square yards concrete gutters, at \$1.25; 18,000 lineal feet concrete edgestone, at 55 cents; 6,000 cubic yards loam surfacing, at 30 cents; 1,000 cubic yards loam, furnished, \$1.25; 39 square yards roadway surfacing, gravel, at 30 cents, and 17,100 square yards gravel walk surfacing, at 30 cents; for broken stone, instead of gravel surfacing, 48 cents per square yard was bid, making the total \$52,248.50. Bruno-Salomone & Pettitt, Boston, bid \$75,835 for gravel and \$79,775 for broken stone; Richmond F. Hudson, Melrose, \$67,155 for gravel and also for broken stone; John E. Palmer, Boston, bid \$66,040 for gravel and \$75,102 for broken stone; T. Stuart & Son Company, Newton, bid \$56,825 for gravel and \$60,765 for broken stone; John F. Gill Company, Somerville, \$48,384 for gravel and \$61,780 for broken stone.—John R. Rablin, Engineer Metropolitan Park Commission.

Watertown, Mass.—T. Stuart & Son Co., of Newton, was awarded contract for constructing Gaten street bridge, for \$31,400; there were 16 bidders; McGuire & O'Hearn were low for furnishing granite, at \$15,000; there were eight bidders.—W. F. Learned, Superintendent of Streets and Town Engineer.


Beatrice, Neb.—Following is the tabulated form of the bridge bid of the A. E. Shorthill Company of Marshalltown, Ia., which was accepted by the county: 32 feet riveted girder steel spans, per lineal foot, \$7.50; caps and sways, \$40 per M.; piling driven, 40 cents. Approaches, superstructure, \$3.40; piling driven, 35 cents; caps and sways, \$40 per M. Pile bridges, superstructure, per lineal foot, \$3.55; piling driven, 40 cents; caps and sways, \$40 per M.; lumber in place for repairs, 3-inch fir, \$38; 2 1/2-inch oak for flooring, \$38; red cedar piling in place for repairs, per foot, 45 cents; 3-inch fir or 2 1/2-inch oak, in car lots, per M., \$31.50; red cedar piling, in car lots, per foot, to 26-inch, 19 1/2 cents; 28-inch to 30-inch, 22 1/2 cents.—Ben. H. Conlee, County Clerk.

Jersey City, N. J.—The Altmer Iron Works, of Hoboken, has been awarded contract, at \$1,870, to repair the Franklin street steps, connecting the Heights with lower Jersey City and Hoboken; the Howard Engineering Company bid \$2,300.

Troy, N. Y.—The Corliss Construction Company has been awarded contract to furnish quarry chips, at \$1.50 per cubic yard, also broken stone for other repairs of the Brunswick road, at \$1.25 per cubic yard.

Celina, O.—The Bluffton Stone Company has the contract for furnishing the stone for the Mill road improvement, at \$22,080; White and White, of Portsmouth, \$24,200; the former was awarded the contract.

Cleveland, O.—The U. S. Cast Iron Pipe and Foundry Company has been awarded contract to furnish 1,030 tons 3, 4, 6, 8, 10 and 12-inch cast-iron water pipe delivered on streets, at \$36.25 per ton, total, \$37,337.50; the Florence Iron Works submitted a proposal to furnish the pipe on cars at \$38,910.



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NO CAULKING REQUIRED. COST LESS THAN ONE-THIRD THE COST OF LEAD. ONE TON WILL DO MORE WORK THAN FIVE TONS OF LEAD. JOINTS WILL NEVER LEAK. IN USE 11-12 YEARS IN PHILADELPHIA, PA. NOW ADOPTED BY WATER DEPARTMENT. IN USE IN MANY CITIES.

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These signs are indestructible by the elements, do not rust or corrode, and can be read from a long distance and at any angle you approach them. Adjustable to the intersections, will carry as many signs as are needed for additional intersections. Write for catalogue. We contract with municipalities for signs and house numbering.

AGENTS WANTED in EVERY STATE in the UNITED STATES to REPRESENT OUR LINE. Send for Catalogue.

Perforated house numbers in any finish a specialty

THE AMERICAN STREET SIGN CO.

CLYDE, OHIO

The Semisteel Company has been awarded contract to furnish 55 tons special castings, 3 to 48-inch, delivered on streets, at \$54 per ton; the U. S. Cast Iron Pipe and Foundry Company bid \$3,300 and the Florence Iron Works, \$3,626.

The Camden Iron Works has been awarded contract to furnish 220 fire hydrants, 4-inch connection, 2½-inch nozzle, in trench 6½ feet deep at \$27.75 each; 220 5-inch hydrants, 4-inch nozzles, at \$35.25, and 100 6-inch hydrants, 4-inch nozzle, at \$46.25.

The Rensselaer Manufacturing Company, Troy, N. Y., has been awarded contract to furnish gate valves, 300 pounds pressure, as follows: 250 4-inch, at \$7.65; 200 6-inch, \$12.60; 25 8-inch, \$18.90; 20 10-inch, \$26.25; 20 12-inch, \$34.50; 5 16-inch, \$66.50; 6 20-inch, \$134.25; 24-inch, \$217.50; 16-inch, extra heavy, \$136.60; and 20-inch, extra heavy, \$216.60; total, \$7,826.95; the Darling Pump and Manufacturing Company, Williamsport, Pa., bid \$8,903.75, and Roe Stephens Manufacturing Company, Detroit, Mich., \$8,910.—A. R. Callow, Secretary, Board of Public Service.

Conneaut, O.—Roy L. Williams, Kalamazoo, Mich., has been awarded contract to construct 23,500 square yards brick pavement on 5-inch concrete asphalt filler, at \$1.68 per square yard; 7,400 cubic yards clay excavation, 30 cents per cubic yard; he was also low bidder on resetting 100 feet storm curb, at 30 cents per foot, and setting 19,000 feet concrete curb and gutter, at 55 cents, and 19,000 feet storm curb, at 45 cents per foot; no contract was awarded total; other bidders for paving, including curb and storm sewer work, were: A. E. French, Cleveland; Philip Freshwater, Chester, W. Va.; and F. L. Mallon, Oil City, Pa.

Lorain, O.—The Ohio Engineering Company of Elyria is the lowest bidder on paving Everett street, at \$18,747 for stone foundation and Hadley brick; the Barber Asphalt Company is the lowest on asphalt.

Chester, Pa.—The Massillon Bridge Company, of Toledo, O., has the contract at \$68,500 for a bridge over Oarby creek, to connect Prospect Park and Tinicum township.

Erie, Pa.—Joseph McCormick & Son were low bidders for constructing Conneaut with cut brick block pavement on East avenue, from Eighth to Fourteenth street, extended, at \$1.79 per square yard for brick and 60 cents per foot for curbing; R. C. Ruthven bid \$1.89 for brick and 50 cents for curb, and Mayer Bros., \$1.84 for brick and 55 cents for curb; R. C. Ruthven of Buffalo was awarded contract for same material on Twelfth street, from Sassafra to Cranberry, at \$1.87 for brick and 50 cents for curb; Mayer Bros. bid \$1.88½ for brick and 55 cents for curb, and Jos. McCormick & Son, \$1.90 for brick and 60 cents for curb; bids submitted on asphalt were higher.—City Engineer Briggs.

Scranton, Pa.—Edward Mullen of Dickson City was low bidder for sinking lowholes to determine the depth necessary to go in order to secure proper foundation for the Lackawanna avenue and Green Ridge street bridges and Mulberry street viaduct; the bid was \$163 a foot, regardless of material; other bidders were O. A. Halford, Peckville; and M. J. Neary & Co., Carbondale.

Civil Service Examinations

Designing Engineer.—The Municipal Civil Service Commission, 299 Broadway, New York, announces that applications will be received until May 16 for the position of Assistant Engineer (Designer) at a salary

of \$2,100 a year and over. The examination will be held Tuesday, June 4. Frank A. Spencer, Secretary.

Inspector.—The U. S. Civil Service Commission will hold an examination May 29 to fill a vacancy in the position of Assistant Superintendent of Construction at \$900 per annum at Sheridan, Wyo., in the Quarter at Large, Fort Slocum, N. Y.—Apply on Form 1312.

Aid.—The U. S. Civil Service Commission will hold an examination May 15-16 to fill at least 13 vacancies in the position of Aid in the Coast and Geologic Survey, at salaries of from \$720 to \$900.—Apply on Form 1312.

Electrician.—The U. S. Civil Service Commission will hold an examination on May 29 to fill a vacancy in the position of Electrician, at a salary of \$1,000 per annum, in the Quartermaster's Department at Largs, Fort Slocum, N. Y.—Apply on Form 1052.

Stationary Engineer.—The Municipal Civil Service Commission, No. 299 Broadway, New York, will receive applications until May 6 for the position of Stationary Engineer for electric pumping stations. The examination is to be held May 27. Salary \$1,500. Twelve vacancies.—Frank A. Spencer, Secretary.

CIVIL SERVICE

MUNICIPAL CIVIL SERVICE COMMISSION

299 Broadway.
(Corrected Notice.) New York, April 2, 1907.
Public Notice is Hereby Given that applications will be received from Tuesday, April 2, until 4 P.M. Thursday, May 16, 1907, for the position of

ASSISTANT ENGINEER (DESIGNER).
The examination will be held on Tuesday, June 4, 1907, at 10 A.M.

Candidates must have had at least five years' experience, part of which should have been in water-work designing and construction. Graduation from a technical school of recognized standing will be accepted as the equivalent of two years' experience.

The examination is open to all citizens of the United States, and the rule requiring that two of the vouchers for candidates residing outside of the City of New York must be residents of the City of New York is waived for this examination.

The salary is \$2,100 per annum and up. A number of vacancies exist in the Board of Water Supply.

The minimum age is 25 years.
For scope of examination and further information, apply to the Secretary.

FRANK A. SPENCER, Secretary.

MUNICIPAL CIVIL SERVICE COMMISSION

299 Broadway.
New York, March 13, 1907.
Public Notice is Hereby Given that applications will be received from Wednesday, March 13, until 4 P.M. Monday, May 13, 1907, for the position of

TOPOGRAPHICAL DRAUGHTSMAN.
The examination will be held on Wednesday, May 29, 1907, at 10 A.M. The examination is open to all citizens of the United States. Vacancies exist in the Board of Water Supply. Certification will be made for appointment at \$1,200 per annum only.

For scope of examination and further information, apply to the Secretary.
FRANK A. SPENCER, Secretary.

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PERSONALS

BIDDLE, MAJOR, Corps of Engineers, U. S. Army, has been relieved from duty as Engineer Commissioner of the District of Columbia, where he served longer than any other Army officer, and will take station at San Francisco as Chief Engineer Officer of the Division; Capt. Jay J. Morrow, who has been Assistant Engineer Commissioner for the past four years, has been detailed as Commissioner, the assignment carrying with it an increase in pay of \$1,800 per annum.

ENGSTROM, FRANZ, of Pittsburg, was recently installed as City Engineer of Altoona, Pa., and M. V. Orner assumed the newly-created office of Building Inspector.

HAZELHURST, JAMES NISBET, C. E., formerly Chief Engineer to the Board of Public Works, Mobile, Ala., has opened an office as Consulting Engineer at 905 Candler Building, Atlanta, Ga.

HEPP, AUGUSTUS C., C. E., Hydraulic Specialist, of New York City, has joined the staff of the American Dittler Sewage Disposal Company.

McCULLY, HON. P. K., Mayor of Anderson, S. C., on a recent visit to Columbia, looked over the public works of the city. Commenting favorably on many improvements, he thinks Anderson can show better pavements.

PRATT, CHARLES H., Superintendent, representing the Associated Architects and Engineers, Jamestown Exposition, having finished his work at the Exposition, has removed to Princeton, Mich., where he will have charge of the building of roads, sewers and waterworks for the Austin Mines.

RICHARDS, GEORGE, representing the New York Board of Fire Underwriters at a hearing before the Legislative Committee on Insurance, at Albany, N. Y., urged a conference of the insurance interests of the country for the purpose of agreeing on a standard form of fire insurance policy.

SCHAEFFER, DR. CHARLES DANIEL, who has been Acting Mayor of Allentown, Pa., since December, 1905, has been unanimously elected, succeeding Dr. Alfred J. Yost, who died recently at his home after having spent about sixteen months in Denver, Col., in an effort to regain his health.

SCHNAUBER, FRANK J., formerly City Engineer of Syracuse, N. Y., has been selected as Engineer to take charge of the engineering work in connection with the new park system of the city.

SEWELL, CAPT. JOHN S., Corps of Engineers, U. S. Army, who has made a special study of construction work and building material, and who during several years past has had charge of a number of important public buildings at Washington, D. C., involving the disbursement of millions of dollars, has resigned his commission, to accept a lucrative position with a corporation in the development of the marble resources of Georgia.

SHAW, JOSEPH E., Chief of the Massachusetts State Police, and former City Marshal of Lynn, Mass., died recently at his home in Lynn.

STANTON, JOHN F., of Topeka, Kan., has been appointed State Architect of Kansas.

THOMS, WILLIAM E., Mayor of Waterbury, Conn., was recently presented with a souvenir of the last outing of the Board of Public Works by Commissioner Robert Dennison, on behalf of the Board, the memento being a sign which hung at the fresh water inflow, where the party secured refreshments during their trip through the sewer, appropriately framed, which read: "The Top B. P. W. Private Brand, Vintage of 1907."

WARD, GEORGE B., Mayor of Birmingham, Ala., who was recently reelected, has had his salary increased from \$2,500 to \$5,000 per annum.

WEST, HENRY L., Commissioner of the District of Columbia, recently made a business trip to Mexico, and Engineer Commissioner John Biddle visited Cuba, where he was stationed during the American invasion in 1898; he states that the streets of Havana are the finest and cleanest he has ever seen, the water supply is excellent, and many other municipal improvements are under way or contemplated.

WINSLOW, ORVID F., former Superintendent of Streets of Nashua, N. H., has accepted a position with the Hassam Construction Company, of Worcester, Mass., to become Superintendent for the company in Virginia.

WRIGHT, J. SIDNEY, City Marshal of Holyoke, Mass., has resigned to become a member of the Board of Health and Health Officer, vice Jeremiah J. Linehan, resigned, and Assistant Marshal Herbert is acting head of the Police Department.

WILLIAMS, EDWIN H., Assistant Chief Engineer of the Fire Department of Hartford, Conn., retired recently after forty-six years' service, twenty-six of which he acted in the position, and was presented with a beautifully engrossed set of resolutions by President Charles E. Parker on behalf of the Fire Board, to which Mr. Williams made response.

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